

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION

.
OHIO A. PHILIP RANDOLPH . Case No. 1:18-cv-357
INSTITUTE, et al., .
 . **Day 6 of Bench Trial**
Plaintiffs, .
 .
- v - .
 . Monday, March 11, 2019
LARRY HOUSEHOLDER, et al., . 9:00 AM
 .
Defendants. . Cincinnati, Ohio
.

- - -

TRANSCRIPT OF PROCEEDINGS
BEFORE THE HONORABLE TIMOTHY S. BLACK, THE HONORABLE KAREN
NELSON MOORE AND THE HONORABLE MICHAEL H. WATSON, JUDGES

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P R O C E E D I N G S

(In open court at 9:00 AM.)

JUDGE BLACK: Please be seated.

Good morning. We are here in the open courtroom back on the record in the matter of *Ohio A. Philip Randolph Institute, et al. versus Larry Householder, et al.* We're ready to proceed back into trial.

Before we begin, the lawyers are beginning to stand. The plaintiffs' counsel is here, the defense counsel is here and the intervenor is here.

On behalf of the plaintiffs, sir?

MR. FRAM: Good morning, Your Honor.

JUDGE BLACK: Good morning.

MR. FRAM: One ministerial item.

JUDGE BLACK: Yes.

MR. FRAM: And one item that verges on being substantive.

JUDGE BLACK: Very well.

MR. FRAM: The ministerial item, our daily time report.

JUDGE BLACK: Yes.

MR. FRAM: And, by the way, our team's getting awfully good at this. They're hitting it on the nose exactly at the end of the day, both sides.

JUDGE BLACK: That's remarkably --

1 MR. FRAM: Both sides.

2 JUDGE WATSON: You'd think you could settle.

3 MR. FRAM: I'm worried we're going to lose him to some
4 time consultancy. Keeping our eye on that.

5 But plaintiffs, 131 minutes on Friday, for a total of 947
6 minutes in trial to date as of the end of Friday. Defendants
7 and intervenors, another 241 on Friday, for a total of 821
8 minutes.

9 JUDGE BLACK: Very well. And that's the agreement; is
10 that right?

11 MR. STRACH: Yes, sir.

12 JUDGE BLACK: Very well.

13 MR. FRAM: Umm.

14 JUDGE BLACK: Yes.

15 MR. FRAM: Your Honor, on the point I said that verges
16 on substance, I'm standing here before you in an attempt to try
17 to persuade the Court to amend a thought that was shared with
18 us on Friday regarding how the post-trial findings will take
19 place.

20 JUDGE BLACK: We've worked hard on this. Go ahead.

21 MR. FRAM: Okay. Well, I have come up with five
22 thoughts as to why we believe that the Court's position at the
23 pretrial conference, which, as we read the transcript, it's
24 around pages 44 through 46, got it right when the Court
25 directed that it be simultaneous submissions, and the date that

1 was expressed a few times was March 25, which was a
2 then-estimated ten days after the trial date. Thought about it
3 a lot. I understand the Court has already thought about it.

4 JUDGE WATSON: You're saying you prefer simultaneous?

5 MR. FRAM: We do, Your Honor.

6 But understanding the Court didn't suggest a shift of its
7 thinking lightly, we thought about it hard. And with the
8 Court's indulgence, I have five reasons why we believe the
9 pretrial conference statement is the one we prefer.

10 The first is, we are concerned that sequential filings will
11 inevitably delay the drafting of an opinion and the issuing of
12 an order. And as we have said from the beginning, we believe
13 that -- and we -- an expeditious resolution and opinion is in
14 the public interest. We are enormously grateful for the
15 Court's accommodation of that objective that we keep
16 expressing. We truly are.

17 We've seen a motion to stay this case. We believe
18 defendants and intervenors were trying to block this Court's
19 opinion from seeing the light of day before the Supreme Court
20 rules on partisan gerrymandering litigation. We believe this
21 Court's opinion is going to be important for the public
22 discussion and the judicial consideration of these issues. To
23 put it directly, we think it's important that the Supreme Court
24 have the benefit of and read this Court's opinion.

25 We don't want -- it would be terrible if, after all the

1 work that's been done here, if that was obscured. That's my
2 first thought.

3 My second thought: If there's a thought that sequential
4 findings will somehow or other limit the number of findings,
5 the bulk of the work -- and we are appreciative the Court and
6 the Court's clerks have a lot in front of them, and we've put a
7 lot of evidence in, I'm sorry to say, that having looked at the
8 track record in this case so far, we are not optimistic that
9 that is what will happen. Let me explain why.

10 We've been through the Court's pretrial statement process,
11 and we took it seriously. And a certain amount of the
12 underbrush was cleared out. There were about, our count, 137
13 uncontested statement of facts. But plaintiffs still had 312
14 contested statement -- contested facts. As I said, I think
15 it's the underbrush; the low-hanging fruit, if you will, has
16 been taken care of. We are not optimistic that what remains at
17 issue is easily resolved.

18 And then, of course, there's the summary judgment process
19 and then the number of disputed facts that we presented to
20 oppose the summary judgment motion, even on issues where the
21 defense and intervenors merely said, for example, on intent,
22 "Well, we don't know what the legal standard is," we put in --
23 we laid out our case, 450 contested facts. We're not
24 optimistic that we're going to reach resolution. We don't want
25 to hold out hope that's going to happen.

1 Now, the good news is -- there's some good news in all
2 that, and that is the defendants and the intervenors know our
3 case. They know it now. They knew it before the first day of
4 trial. They had 137 contested statement of facts thanks to the
5 Court's process, thanks to the Court's pretrial process. And
6 they entered 450 contested statement of facts thanks to the
7 summary judgment process. And then, of course, they've been
8 here during the trial, and they've had an enormous amount of
9 disclosure of evidence.

10 In fact, during the pretrial conference, opposing counsel
11 suggested -- and it may have been lighthearted, but it might
12 have been serious. He said they were already working on their
13 post-trial findings. And Your Honor asked, "How is that
14 possible? We haven't started trial yet." And the response
15 was, "But a lot of evidence has already been submitted." I
16 don't -- you know, I'm not taking advantage of a lighthearted
17 statement by opposing counsel, but it's a fact that, in fact, a
18 lot of evidence has been admitted. There's no mystery here.
19 They don't need our findings to write their findings. That's
20 my point.

21 My next point: It's unfair. We have the burden on so many
22 crucial issues in this case, and to let them look at our
23 findings and marshal -- and then marshal their evidence, after
24 we put in ours, to try to persuade the Court why their approach
25 is superior on the evidence, it's asymmetrical, it's

1 asymmetrical on an issue on which we have the burden. And the
2 option of going back and forth with reply briefs and
3 surreplies, that goes to my first concern about dragging it
4 out. They don't need it and it prejudices us.

5 Finally, sequential findings are not necessary to resolve
6 these evidentiary disputes. Now, I can imagine on Saturday
7 when we sent over these spreadsheets, somebody in the Court's
8 chambers probably looked at it and said, "What can we do to cut
9 this down? There's a lot here. What can be done?" And I
10 appreciate that, having spent a lot of time working on this. I
11 wholly appreciate it.

12 But the early findings or sequential findings is not the
13 answer. There is no mystery as to how, for example, as they
14 write a lot about, we're dealing with hearsay use of documents.
15 It's in the spreadsheet. If it goes in under not for the
16 truth, 801(c)(2), it's in the spreadsheet. We put it in. It's
17 803(3), state of mind, we put it in the spreadsheet. If it's
18 party admission, we put it in the spreadsheet.

19 They know the issues, they know the documents, they know
20 the case. So there's really no reason -- we don't need to do
21 it to resolve the evidentiary issues. We can have a separate
22 set of evidence briefing. I get that. That might be useful.
23 Hope springs eternal. It would draw more objections. But,
24 again, I'm not going to suggest we're going to go further.
25 We've spent a lot of time back and forth on this spreadsheet.

1 And so here's what we think is right: That ten days after
2 the close of trial, the parties should submit their findings of
3 fact and conclusions of law. They should simultaneously submit
4 that trial brief that got discussed at the pretrial conference.
5 The Court admonished us to get to the point with it, although
6 it didn't set a page limit. And that five days thereafter, the
7 parties submit their evidence briefs. If there's any question
8 whatsoever, so the ships don't pass in the night, let the
9 evidence briefs go in five days thereafter. And that wraps it
10 up and gets the case completely in front of the Court and gives
11 the Court the time it needs to write an opinion that the
12 Supreme Court can read. Thank you, Your Honor.

13 Any questions, of course?

14 JUDGE WATSON: Ten days, ten days and five days; is
15 what you're saying?

16 MR. FRAM: Ten days for both sides concurrent.
17 Concurrent ten days and five days, five days. So ten, ten, the
18 same for both sides.

19 JUDGE WATSON: Uh-huh.

20 MR. FRAM: Five, five, same for both sides. In other
21 words, 15 days after trial, we're all done.

22 JUDGE WATSON: All right. Thank you.

23 JUDGE BLACK: We understand your proposal. We may
24 share ours with you and see where we go.

25 Did the defendants wish to be heard on plaintiffs' comments

1 just now?

2 MR. STRACH: Just briefly, Your Honor. But I will --
3 I'm not going to get -- I don't feel like I need to be as
4 worked up about this as my opposing colleague. We'll certainly
5 be happy to do whatever the Court feels it needs to do.

6 It's our view that the Court is in the best position to
7 know when it may need to get an order out or how long it's
8 going to take to get an order out so the Court really knows
9 whether ten days is appropriate, 20 days.

10 If the Court thinks it's going to take a month to get an
11 opinion out, then it may be useful to have a sequential
12 briefing so that the issues can be fleshed out like they are in
13 the summary judgment process, which is typical. If the Court
14 thinks it needs less time, then obviously the Court should have
15 less time and maybe do simultaneous briefing as is being
16 suggested.

17 One thing that could occur is that the parties submit their
18 findings of fact and conclusions of law simultaneously ten days
19 thereafter. There could be an opportunity to file a response
20 to each within some time period that the Court, you know, could
21 or couldn't consider. Again, I say that not because I want to
22 write another brief, but because it could help flesh the issues
23 out a little bit for the Court.

24 I do want to respond to the comments on the motion to stay.
25 We obviously had a well-grounded basis for the motion to stay,

1 which the Court in its discretion denied, but I don't think
2 that's relevant to this discussion.

3 JUDGE BLACK: Thank you.

4 Do the intervenors wish to be heard?

5 MS. McKNIGHT: Yes, Your Honor. Good morning, and,
6 briefly.

7 I would concur with defendants' counsel, the statements he
8 just made. I just have a few notes on what plaintiffs' counsel
9 shared with you.

10 I heard plaintiffs' counsel address an issue of it's not
11 fair to have staggered briefs because it would not be fair to
12 have plaintiffs put forward their case and allow defendants
13 intervenors to rebut it. Candidly, Your Honor, that is how the
14 presentation of evidence goes in cases. Plaintiffs go first
15 and defendant/intervenors have an opportunity to rebut. Rule
16 611(a)(2) governs this. Rule 611 governs this. The
17 presentation of evidence, the Court is able to determine how
18 evidence is presented in order to avoid wasting time.

19 I would say, Your Honor, on sequential briefing, there is
20 value in sequential briefing. Not only does it alert us to
21 evidentiary issues so we may brief them, and that is a serious
22 issue, but it allows the Court to focus in on what matters in
23 this case.

24 You will get a brief by plaintiffs that they believe
25 supports their claims in this case. It allows us to focus our

1 rebuttal on those -- on those briefs.

2 We believe in the efficient resolution of this case. Of
3 course, contrary to what plaintiffs' counsel just stated, we
4 are in no position to block this Court's opinion, I think he
5 said, from public view he wanted us to block this Court's
6 opinion. We're in no position to do that; we're not interested
7 in doing that. We are interested in this becoming resolved as
8 quickly as possible, and there is value in sequential briefing
9 in focusing the issues so that the Court can focus on them and
10 prepare its opinion. And it won't bloat the briefing schedule
11 to do that. We can do that within a certain number of days.
12 And it will also allow, concurrently, us to address some of the
13 exhibit issues.

14 You know, plaintiffs' counsel noted that he's been thinking
15 hard about this. We've been thinking hard about this since
16 January 18th when plaintiffs produced an exhibit list with
17 nearly 600 exhibits. We have gone back to plaintiffs again and
18 again saying, "How do you plan to use these exhibits? We need
19 to know so that we can make hearsay objections, we can
20 understand which objections to make."

21 Now, I won't get too far down this road, I just wanted to
22 raise for you there's an issue with evidence in this case and
23 the number of exhibits produced by plaintiffs. We care about
24 it too. We believe sequential briefing will focus the issues
25 for the Court and will also allow us to pay attention to what

1 exhibits actually matter and how plaintiffs intend to use them.

2 Thank you, Your Honor.

3 JUDGE BLACK: Thank you.

4 Plaintiff want the last word?

5 MR. FRAM: Thank you, Your Honor.

6 The last word was actually --

7 JUDGE BLACK: Sequential. Go ahead.

8 MR. FRAM: Yeah. The last word was exactly what was
9 on my mind. Reference was made to summary judgment process.

10 In the ordinary course, the party with the burden gets to
11 reply. But that puts us in a tough position, because replies,
12 the back and the forth, drags it out. And that goes intention
13 with the very first principle I started: not our interest as
14 litigants, not our interest as lawyers, the public interest in
15 getting this done. That's why we were proposing -- when we
16 proposed concurrent briefing, we're waiving reply. We're not
17 doing it if we go concurrent. But to create a world in which
18 we go first and they get the last word, where we have the
19 burden and we don't get a reply, that's the prejudice. That's
20 where intervenors' counsel's analogy falls down. We think
21 concurrent briefing, wrapping it up, getting it done, is our
22 proposal, with respect to the Court.

23 JUDGE BLACK: Very well. The parties have been fully
24 heard. To be perfectly frank, I think that the schedule needs
25 to be driven by what the Court determines it needs. We will

1 give you our proposal when we break for the mid-morning, and we
2 will thrash around on this in the future.

3 We are not in a position where we need to make a decision
4 at this very moment. I'll speak for this judge only. We are
5 absolutely committed to an expeditious resolution. We've been
6 committed to that on day one at the request of all parties.
7 Brace yourself for our proposal, and we'll continue to discuss
8 this.

9 Are we ready to proceed to the taking of evidence, or are
10 there other matters we should address before we proceed to the
11 taking of testimony?

12 From the plaintiffs?

13 MS. LEVENSON: We're ready, Your Honor.

14 JUDGE BLACK: Very well. Defense?

15 MR. STRACH: We're ready.

16 JUDGE BLACK: And the intervenors?

17 MS. McKNIGHT: Your Honor, just a brief administrative
18 issue.

19 JUDGE BLACK: Uh-huh.

20 MS. McKNIGHT: I will keep it brief. Our lead trial
21 counsel is ill and unable to be with us today. That is Patrick
22 Lewis. We have a doctor's note, if you'd like to see it, but
23 he anticipates being out today but back tomorrow.

24 Today we are in the capable hands of two attorneys who are
25 barred in Ohio and admitted in this court: that is, Erika

1 Prouty and Marissa Piersal. We would ask for leave for one day
2 from the local rule requiring presence of lead trial counsel.

3 JUDGE BLACK: Does plaintiff wish to be heard?

4 MS. LEVENSON: We have no objection, Your Honor.

5 JUDGE BLACK: Defense?

6 MR. STRACH: None here, Your Honor.

7 JUDGE BLACK: The Court wants Mr. Lewis to get well,
8 excuses him from attendance today, finds comfort in the fact
9 that we have two healthy lawyers who have joined us as well as
10 the lawyers who have been with us.

11 The intervenors' counsel table has been sniffing all week,
12 and I am hopeful that all of you will remain healthy.

13 MS. McKNIGHT: Thank you very much, Your Honor.

14 JUDGE BLACK: Are you healthy?

15 MS. McKNIGHT: Yes, Your Honor.

16 JUDGE BLACK: It affects whether you're going to be
17 granted permission to approach the bench.

18 (Laughter.)

19 JUDGE BLACK: Having heard all that, we're ready to
20 go. Who does the plaintiff call as a witness at this time?

21 MR. STRACH: Your Honor, I believe it's in our case.

22 JUDGE BLACK: I'm sorry.

23 MR. STRACH: And so the defendants call our next
24 witness, Speaker William Batchelder.

25 JUDGE BLACK: Very well. And what's his appropriate

1 title? Speaker?

2 MR. STRACH: I'll be referring to him as Speaker.

3 JUDGE BLACK: Very well.

4 We're going to need some assistance. Yes. He's --

5 MR. STRACH: May I approach the chair to help?

6 JUDGE BLACK: Yes, yes.

7 Mr. Speaker, we're going to get you settled in the witness
8 stand.

9 Before you climb up to that tipping chair, would you raise
10 your right hand for the oath to tell the truth. Do you
11 solemnly swear or affirm that your testimony today will be the
12 truth, subject to the penalty of perjury?

13 THE WITNESS: I do.

14 JUDGE BLACK: Thank you. You're welcome to be seated.

15 THE WITNESS: Thank you, sir.

16 JUDGE BLACK: The seat does tip back, so get some
17 comfort level with it, and then we'll need you close to that
18 expensive federal microphone.

19 Good morning. The lawyer will begin with questions of you
20 momentarily.

21 You may proceed when you're ready, counsel. I'm sorry.

22 MR. STRACH: Thank you, Your Honor.

23 WILLIAM GEORGE BATCHELDER III

24 a witness herein, having been first sworn, testified as follows:

25 DIRECT EXAMINATION

1 BY MR. STRACH:

2 Q. Good morning, Speaker Batchelder. Could you state your
3 full name for the court reporter?

4 A. William George Batchelder III.

5 Q. All right. And would you spell your last name for the
6 court reporter.

7 A. B-a-t-c-h-e-l-d-e-r.

8 Q. All right. Speaker Batchelder, I just want to give the
9 Court a sense of your background before we get into our
10 substantive questions.

11 Could you sketch out your career, starting with your
12 private practice of law and kind of walk the Court forward
13 through your career, briefly.

14 A. I was practicing law in Medina County by the permission of
15 the Ohio Supreme Court. And I, then, was in the United States
16 Army. And then I was elected to the Ohio House of
17 Representatives in 1968. At that time I was elected to an
18 unexpired term. I then served until 2000 for Medina County.

19 I then left to go on the trial court in Medina County. I
20 then was promoted by Governor Taft to the position of the Court
21 of Appeals, the Ninth District Court of Appeals in Ohio, and I
22 was elected to that Court to which I had been appointed.

23 I then returned to the Ohio House of Representatives at a
24 later date. It's somewhat muddled in my mind at this age, but
25 I was there for one term in the minority and then three terms

1 as Speaker of the House.

2 Q. Thank you. I want to focus your attention, Speaker
3 Batchelder, on just two discrete issues that I want to talk to
4 you about today. Okay? And both of these involve the
5 congressional redistricting in 2011. Do you remember that
6 process?

7 A. I remember the process. We were just newly in the
8 majority --

9 Q. Okay.

10 A. -- and so I had a very significant number of new members,
11 and any Speaker worth his salt looks out for the new members.
12 And it was my job to see to it that they were informed. And so
13 I was working on about 80 bills beyond that.

14 Q. All right. So let me -- I'm going -- we're going to focus
15 on just two of the districts that were drawn. And to begin the
16 discussion about one of the districts, I want to ask you, do
17 you know a man named George Forbes?

18 A. I know George Forbes very well and have known him for many
19 years. He was the former president of the city council of the
20 city of Cleveland, Cuyahoga County.

21 Q. What kind of relationship have you had with Mr. Forbes
22 through the years?

23 A. It was a very warm and friendly relationship. He was the
24 first black leader of the city council in the city of
25 Cleveland.

1 Q. And would you consult with him occasionally about matters
2 that were coming before the house?

3 A. Indeed. And, on occasion, George would come to see me and
4 inform me about what we were doing in the House of
5 Representatives.

6 Q. All right. Did you and Mr. Forbes ever have any
7 discussions about Congressional District 11, the district now
8 held by Representative Fudge?

9 A. He did. He approached me, and I had, actually, inquired of
10 him. That was the first African-American district since the
11 early part of the 20th century, and that particular district
12 had been represented by another friend of mine -- Lou Stokes --
13 who was an outstanding member of Congress. He was elected in
14 1966.

15 Q. All right. And can you tell the Court what you remember
16 discussing about that district with Mr. Forbes.

17 A. We discussed the fact --

18 JUDGE BLACK: Excuse me just a moment. I'm sorry.
19 Plaintiffs' counsel is standing.

20 MR. FRAM: The question suggests not just comments by
21 the Speaker, but also comments by Mr. Forbes. Objection.
22 Hearsay.

23 JUDGE BLACK: There's an objection as to Forbes'
24 statements as to hearsay. The Court notes it and the witness
25 may continue to answer questions.

1 Q. Speaker Batchelder, if you could continue with a discussion
2 of -- the discussions you had with Mr. Forbes about the
3 Congressional District 11.

4 A. The district had changed in its nature, which we knew from
5 the census, and we, therefore, were concerned about its
6 continuance as an African-American district.

7 The concern that we had was that, first of all, Governor
8 Jim Rhodes had wanted to have that district set forth early on.
9 I was a member of the House at the time. I discussed that
10 matter with Mr. Forbes, who, as I say, was a friend of mine,
11 and we were both concerned about the changing nature of that
12 district.

13 Q. And how was the district going to have to change, if at
14 all?

15 A. It would appear that the district, based upon the census,
16 might not continue as an African-American district.

17 Q. And what would have to be done for it to continue as a
18 majority-minority African-American district?

19 A. There would have to be a change in the district so that
20 there would be a balance so that it would continue as an
21 African-American district.

22 MR. FRAM: Objection on foundation on the
23 demographics. No foundation laid on the witness' specific
24 knowledge of the specific demographics. Motion to strike.

25 JUDGE BLACK: Motion and objection are noted. The

1 witness may continue to answer questions.

2 Q. Speaker Batchelder, in order to maintain the district as a
3 majority-minority district, would the district have to go into
4 any other counties?

5 A. Well, first of all --

6 MR. FRAM: The same objection, Your Honor.

7 JUDGE BLACK: Very well.

8 A. First of all, we had a situation that I knew, knowing Lou
9 Stokes personally, that was a problem for the district. Lou
10 was suffering from an illness. He had cancer, and I knew that
11 because of our relationship, and, consequently, we knew that
12 there could be a change because of that.

13 Secondly, we knew that there had been a change, according
14 to the census. We, therefore, looked at it from both of those
15 standpoints.

16 Congressman Stokes himself had suggested to me that he was
17 going to have a successor named in the event that his health
18 declined. And, indeed, he had successor Stephanie Tubbs Jones,
19 who was a former prosecuting attorney in the county. She died
20 before that change had been made.

21 Q. All right. Did you ever --

22 MR. FRAM: Motion to strike on hearsay comments by
23 Stokes, Your Honor.

24 JUDGE BLACK: Very well.

25 Q. Did you ever have any discussions with Mr. Forbes about the

1 Congressional District 11 extending down into Summit County?

2 A. I did. That was a discussion which arose because we, very
3 frankly, did not have the makings, under the census, of a
4 district that would be African-American.

5 Q. And --

6 MR. FRAM: Motion to strike.

7 JUDGE BLACK: Plaintiffs' counsel has risen again.

8 Excuse me for interrupting.

9 Yes, sir.

10 MR. FRAM: Motion to strike. Hearsay. Foundation.

11 JUDGE BLACK: Yes, sir. You may have a standing
12 objection. When there is an out-of-court statement by a person
13 not on the stand, you have a standing objection as to hearsay.
14 Are you comfortable with that?

15 MR. FRAM: I'm interested in hearsay, Your Honor;
16 however, the witness is also treading into areas where there's
17 no foundation been laid regarding some of the demographic
18 facts, the need for redrawing districts in certain ways, and so
19 forth, that's being offered for the truth, with a foundation
20 objection.

21 JUDGE BLACK: Understood.

22 You understand, everybody understands that the Court is
23 going to hear objections, make note of it, and rule on them
24 post-trial so that we're not here for the balance of my
25 lifetime.

1 So you've got a standing objection to hearsay. If you have
2 a foundation objection, you can -- if you need to continue to
3 renew it, just say "foundation," or whatever.

4 Here we go. We're making progress. Please continue.

5 MR. STRACH: Thank you, Your Honor. And if it's
6 foundation as to demographics, et cetera, we would certainly be
7 willing to have a standing objection to that. I can certainly
8 understand that. But for the sake of the witness being able to
9 get this out.

10 JUDGE BLACK: Very well.

11 Q. Speaker Batchelder, so was it your understanding that to
12 maintain that district as a majority-minority district, the
13 district would have to extend into Summit County? Was that
14 understanding?

15 MR. FRAM: Objection. Foundation.

16 A. We knew that some alteration of the district would have to
17 occur, which would change it from a Cuyahoga County district.
18 Summit County is the first county south of Cuyahoga County,
19 and, consequently, there were sufficient African-Americans in
20 Summit County to undertake that alteration.

21 Q. All right. And you just mentioned that you had a
22 discussion with Mr. Forbes about this.

23 A. Yes.

24 Q. What was your understanding of how Mr. Forbes felt about
25 the district extending into Summit County?

1 A. Well, George and I used to meet during this districting
2 issue. And as I say, I was not involved in the districting
3 question on a universal basis. We discussed those things on
4 Saturday morning meetings. And he and I, having the background
5 that we did, I asked him what he thought of that, and he was
6 amenable.

7 Q. And did his opinion on that issue carry any weight with
8 you?

9 A. Indeed it did. After all, he had background, an extensive
10 background, in politics, in Cuyahoga County, and particularly
11 in that 11th District, and, of course, he had served as
12 president of the city council for the entire city of Cleveland.

13 Q. All right. Did you ultimately approve a District 11 that
14 started in Cuyahoga County and went down into Summit County?

15 A. I did approve that and informed the people who were
16 actually doing the technical work, as well as my speaker pro
17 tem who was in charge of the districting process.

18 Q. And did you approve that district shape, in part, based on
19 your understanding and belief of how Mr. Forbes felt about
20 that?

21 A. Without question.

22 Q. All right. Let me focus you next on a different district.
23 I'm going to focus you on Congressional District 3, which is in
24 Franklin County. Are you familiar with that district?

25 A. I am.

1 Q. All right. Can you give the Court a sense of why that
2 district ended up in Columbus?

3 A. What had happened in Columbus was that I first had
4 consulted with the chairman of the Republican party there, and
5 he indicated that there was not going to be a viable candidate
6 for his party. I had served in the House of Representatives
7 with the wife of a dear friend of mine. He and I had attended
8 The Ohio State University together and graduated in the same
9 class.

10 Q. And who was this?

11 A. This was the lady who had been head of the Democrat caucus
12 in the Ohio House of Representatives when I had returned as a
13 member.

14 Q. And what was her name?

15 A. Her -- oh, my God. I'm 76.

16 Her -- her name was Joyce Beatty.

17 Q. All right. And what was her husband's name?

18 A. Otto.

19 Q. And what was your relationship with Otto Beatty?

20 A. It was close. He and I served together in the House as
21 well as graduating together.

22 Q. All right. So continue to tell the Court how the district
23 came to be.

24 A. The district was in a situation where it was apparent that
25 the Republicans were not going to be contesting with someone

1 viable. That had been represented to me by the Republican
2 chairman. I had no knowledge of that.

3 The background of Joyce, she graduated from a very
4 distinguished African-American school in Atlanta, Georgia, a
5 women's college. And very bright lady, and she and I had
6 worked together in the House.

7 Q. All right. Did you intend to draw a district that she
8 could potentially win?

9 A. Indeed, I did, because, very frankly, the district had
10 changed, according to the census, quite markedly.

11 Q. All right. Just a couple more questions. Did you ever
12 refer to that Franklin County district as a, quote, "sinkhole"?

13 A. As we say in the country, not hardly.

14 Q. Okay.

15 A. That district was the state capital. That district was a
16 district that had had outstanding legislators over many years
17 and it was certainly not a sinkhole. Quite the contrary to
18 that.

19 Q. All right.

20 A. It was a district that would, in my opinion, continue to
21 command a strong position in the federal House.

22 Q. All right. And have you ever referred to any voters as,
23 quote, "dog meat"?

24 A. Well, sir, I was elected, as you drew my career, as no one
25 who ever spoke of voters as dog meat.

1 Q. All right.

2 A. They were obviously very skilled people. They picked me
3 often.

4 MR. STRACH: All right. Thank you, Speaker
5 Batchelder.

6 That's all the questions we have for now.

7 JUDGE BLACK: Very well.

8 Plaintiffs' counsel has a chance to inquire. It's
9 cross-examination. Brace yourself.

10 THE WITNESS: Thank you, sir.

11 CROSS-EXAMINATION

12 BY MR. FRAM:

13 Q. Good morning, Speaker Batchelder.

14 A. Good morning, sir.

15 Q. We appreciate you taking the time to come here.

16 A. It's an honor.

17 Q. Thank you. Speaker Batchelder, if I understand the
18 history, with the congressional redistricting in 2011, that you
19 were not personally involved in the mechanics --

20 A. Correct.

21 Q. -- of drawing maps; is that right?

22 A. That's correct, sir.

23 Q. And I don't mean anything negative about this, but you
24 don't operate a computer, do you, sir?

25 A. I beg your pardon?

1 Q. You don't operate a computer, do you?

2 A. Oh, no. I didn't operate a computer. I couldn't run a
3 typewriter.

4 Q. Or have an e-mail account?

5 A. No. I have no e-mail account.

6 Q. So if your staff wanted to give you some information, they
7 would print it out for you on paper and share it with you that
8 way? Was that your work practice in 2011?

9 A. Quite often -- I have a large staff. I was blessed with a
10 large staff, and quite often they came to my office and they
11 would discuss things with me, and I would importune them to
12 take the matter back to their office, having given
13 consideration.

14 Q. Something had to be provided, though? Otherwise, someone
15 might get an e-mail or a document on a computer. Your
16 preference was to get it in hard copy, a printout on paper?

17 A. I would often --

18 Q. This would be covered in the conversation.

19 I apologize. I spoke over you.

20 A. I often would discuss it with them but also would receive
21 messages.

22 Q. On paper, they'd print it for you?

23 A. I preferred they come to see me and then -- then they could
24 send me what they thought.

25 Q. But if it had to come in some form, written form, your

1 preference was to have it on paper; is that --

2 A. Not always. No, not always.

3 Q. Would you get it on the computer? But you didn't have a
4 computer, so --

5 A. No, I didn't have a computer.

6 Q. So I'm trying to understand if it was in written form, how
7 you'd get it if it wasn't --

8 A. I didn't, ordinarily, with some issues, deal with it on
9 paper.

10 Q. Okay. But if it happened -- if it was complicated enough
11 to be in writing, your preference was paper, because you didn't
12 have a computer; isn't that right?

13 A. Correct.

14 Q. Okay. Now, the folks who were working on the mechanics of
15 the map, do you think -- you recall -- was her name at the time
16 Heather Mann?

17 A. It was Heather doing that work, yes.

18 Q. And a Mr. Troy Judy, was he involved in that work?

19 A. He was chief of staff of my caucus.

20 Q. And would you speak with him pretty regularly about the
21 congressional redistricting in 2011, while that work was going
22 on?

23 A. Quite often, yes. He also had other responsibilities,
24 because we had so many bills moving.

25 Q. And would you relay your instructions to him regarding

1 desired outcomes regarding the congressional districting?

2 A. On occasion, indeed, I did. On the other hand, it was --
3 there were mechanical aspects to it that I did not engage in.

4 He also would work with my committee leadership on a number
5 of other matters, which were of extreme importance. This was
6 our governor's first term, and so we were coordinating, also,
7 with the governor's office.

8 Q. So when other people were talking to Mr. Judy about
9 redistricting, they knew they were talking to you when they
10 were talking to him; isn't that right?

11 A. Well, I would hope they understood that, yes.

12 Q. Now, Representative Huffman, he also played an important
13 role, did he?

14 A. He did. He was my speaker pro tem. He's number two in the
15 caucus.

16 Q. And you spoke to the him every couple of days about
17 redistricting while that work was going on; is that right?

18 A. Really, yes, to the extent that there were questions,
19 issues. He came from the southern part of the state, so he had
20 sometimes different views.

21 Q. And Representative Lou Blessing also played a role?

22 A. Lou was from Cincinnati and also from the southern part of
23 the state, and he was my first pro tem, speaker pro tem.

24 Q. So you've got a team here of Ms. Mann, Representative
25 Huffman, Representative Blessing and your chief of staff Mr.

1 Judy? Do I have that right?

2 A. That's correct.

3 Q. And they're working on the redistricting, that team?

4 A. That's correct, along with the lady who understood
5 computers.

6 Q. Was that Heather Mann?

7 A. Yes.

8 Q. Okay.

9 A. She was an attorney that worked for me.

10 Q. Now, you recall there were two different bills on the
11 congressional map back in 2011?

12 A. Yes, two bills. 319 was the first bill and then 369 was
13 the second bill.

14 Q. Now, while Ms. Mann was working on the map that became the
15 first bill, 319 --

16 A. Yes.

17 Q. She wasn't working on it out of the statehouse office,
18 though, was she?

19 A. No, no.

20 Q. She was working on it out of a hotel room; isn't that
21 right?

22 A. That's correct.

23 Q. I believe -- I think you sent her over to work in that
24 hotel room; isn't that right?

25 A. I did.

1 Q. And you visited that hotel room yourself more than once;
2 isn't that right?

3 A. Not -- not often, but yes, I did, of course, because they
4 wanted to show me things.

5 Q. You were over there about three times?

6 A. Three times, that I remember.

7 Q. That's all we can ask. And I think you said sometimes your
8 staff would come talk to you?

9 A. Right.

10 Q. Ms. Mann, she would not -- you not only saw her over in the
11 hotel room, but she also came over to your office to talk about
12 redistricting?

13 A. On occasion.

14 Q. Every couple of weeks?

15 A. Probably something like that. Maybe not that often at the
16 beginning.

17 Q. And as you got closer to the time of the introduction of
18 the bill, a little more?

19 A. Correct.

20 Q. I understand. Did you also talk to her on the phone about
21 redistricting?

22 A. Yes, particularly on the weekends.

23 Q. Now, when you were over at the hotel room, do you recall
24 seeing past election result data about particular districts
25 when you were in that room?

1 A. They were presented to me, yes.

2 Q. And they were presented to you by Ms. Mann; is that right?

3 A. Yes.

4 Q. Also by Mr. Judy?

5 A. To some extent by Mr. Judy, yes.

6 Q. Were they presented to you in a paper form?

7 A. On occasion in paper form and sometimes they had it on the
8 screen.

9 Q. You could look at it there. And this election data, that
10 would be for each of the districts; is that right?

11 A. I can't say that I was looking at all of the districts over
12 that period of time, because some of the districts had been
13 retained by people in a previous election, overwhelmingly, on
14 both sides, Democrats and Republicans.

15 Q. But when you saw a district, you would see that election
16 data on the screen, let's say?

17 A. Yes, generally.

18 Q. Have you ever heard the term "political indexes" that
19 summarizes election data?

20 A. I have heard the term. I would have to indicate to you I
21 am a little bit ambiguous on what it meant.

22 Q. You didn't have an understanding of exactly what went into
23 particular political indices, did you?

24 A. I think there were a carload of them offered to me.

25 Q. And as to each one, did you understand the substance of how

1 one was different from the other one?

2 A. In a general way.

3 Q. Do you remember, now, any of the differences?

4 A. Today?

5 Q. Yeah.

6 A. I -- I would say that I might if it were drawn to my
7 attention again, but I -- not offhand.

8 Q. Okay. But you think at the time you had some understanding
9 of political indices?

10 A. I believe that I did. But, again, if you would have asked
11 me to define a given index, I would not be able to do that.

12 Q. Why don't we put, from your deposition -- do you recall you
13 had a deposition in the case?

14 A. Yes.

15 Q. Okay. Why don't we put up on the screen pages -- let's
16 see. Page 212, line 21 through 213, line 3. See if we can
17 just put a little more definition on that.

18 MR. STRACH: Your Honor?

19 JUDGE BLACK: Yes?

20 MR. STRACH: I would request, under Rule 611, that the
21 Court require the scope of the cross to be limited to the scope
22 of the direct. I think we're starting to get pretty -- a
23 little far afield.

24 I understand it's in the Court's discretion, but on direct
25 we talked about two specific districts, and his background.

1 And it feels like this is turning into a cross that you might
2 find in a deposition, and we limited his testimony, number one,
3 because that's what his specific knowledge was about, and,
4 frankly, you know, the 20-minute direct shouldn't have a
5 30-minute or an hour long cross. That's our request, Your
6 Honor.

7 JUDGE BLACK: And the response?

8 MR. FRAM: Well, Your Honor, we were talking about who
9 was doing what aspect of the mechanics of drawing or not. That
10 came up initially. If we have a stipulation that the witness
11 did not have a familiarity with the indices, because that was
12 part of the process, we can move on. But if there's an open
13 question about that, then I would want to inquire and look at
14 the deposition, see what the testimony there said.

15 JUDGE BLACK: And you subscribe to the notion,
16 generally, that the scope of cross should be limited to the
17 scope of direct?

18 MR. FRAM: Yes, Your Honor.

19 JUDGE BLACK: All right. The last word, sir.

20 MR. STRACH: Well, Your Honor, we would just say we
21 certainly will stand on -- a lot of this seems to be coming out
22 of the deposition testimony, which has been designated,
23 counter-designated, and we would certainly stand on that
24 testimony.

25 JUDGE BLACK: Very well. The Court permits you to

1 proceed on this line of questioning.

2 MR. FRAM: Thank you.

3 Q. And we'll just try and keep it. I just want to clear up
4 what you said here and take a look at your deposition and see
5 if we can get on the same page.

6 So you were asked: "So you don't recall ever looking at
7 index information?"

8 In your deposition you said: "Not per se, no. I don't
9 know what that means. I mean, if somebody would say, Well,
10 look what so-and-so did in such-and-so year, I might have
11 looked at that, yeah, but I never -- never confronted -- "I
12 never confronted indices, per se."

13 Now, today, you were saying something a little different.
14 I was wondering, now that you see your deposition, if you can
15 let me know whether or not what you said in your deposition is
16 the way things are or if what you were saying here is the way
17 things are.

18 A. I don't think there's a disparity.

19 Q. Okay. So it was the case, then, that you never confronted
20 indices, per se? Is that right?

21 A. I was shown things that were represented to me as indices.

22 Q. Okay?

23 A. And that -- I did see those, but --

24 Q. And in your deposition you said, "I don't know what that
25 means," indices.

1 A. That would be correct.

2 Q. Okay. Thank you.

3 MR. FRAM: We can take that down.

4 Q. Now, we talked about the different people you worked with,
5 and I just want to make sure we had the full picture.

6 Did you ever have any contact with Speaker John Boehner?
7 Was he part of the people you were talking to?

8 A. Well, I served with John in our House, of course, and he
9 then went to Congress.

10 Q. And I am trying to keep this focused just within what we're
11 talking about here today.

12 A. Okay.

13 Q. And what you've testified about today --

14 A. Okay.

15 Q. -- were the people you were working with regarding
16 congressional redistricting. So I don't want to ask you about
17 all your contacts with Speaker Boehner. I can imagine that
18 could be a lot. Just want to focus -- did you have contact
19 with him regarding redistricting in 2011?

20 A. I met with him in Washington, D.C., once. I think there
21 were other congressmen with him at that time. In other words,
22 it wasn't two of us.

23 Q. And redistricting was part of the conversation?

24 A. Was part of the conversation. And also, of course, we had
25 other discussions about federal matters that impacted upon the

1 stat of Ohio.

2 JUDGE BLACK: Excuse me. Yes, sir.

3 MR. STRACH: Your Honor, again, this has nothing to do
4 with CD11 and CD3. This is in the deposition testimony. So I
5 don't -- I don't know -- I don't think we should rehash the
6 depo testimony -- or his deposition in trial when the scope of
7 the direct was so limited.

8 JUDGE BLACK: Well, I think there has been discussion
9 of who was on the team. And, presumably, you're inquiring as
10 to that, sir.

11 MR. FRAM: Yes, I am. And I can even sharpen it up
12 one more bit.

13 Q. Were all the districts on the table in this meeting in
14 Washington the whole map?

15 A. No.

16 Q. So if you weren't talking about the whole map, what were
17 you talking about?

18 A. We were talking about various districts that -- we had had
19 an election, obviously, in the immediate background. And so we
20 were talking about some people who had been elected newly, and
21 we were talking about some people who were no longer in
22 Congress.

23 Q. Okay. And I think you mentioned on your team you had
24 Representatives Huffman and Blessing. You said that. Were
25 they in touch with Speaker Boehner?

1 A. I would presume they were. At least Blessing served with
2 him.

3 Q. Okay. And did you have contacts with Speaker Boehner,
4 yourself, about redistricting, other than this meeting in
5 Washington?

6 A. I do not believe that I did. I -- I -- he might have -- he
7 might have called me. I don't recall that he did. He -- he
8 was working with the Senate more.

9 Q. You don't recall him speaking to you about once a month
10 during the HB 319 process?

11 A. It's conceivable, but I don't recall it.

12 MR. FRAM: Okay. If you can put up -- maybe we can
13 help on remembering things. Look at the deposition. Page 27,
14 six through eight, please.

15 Q. Do you see here where you testified about speaking with him
16 maybe once a month? Did that happen about right?

17 A. That might have been so toward the end of the drafting,
18 but, of course, obviously, that bill was going to be coming to
19 the floor. 319 you're speaking of, not 369?

20 Q. I'm talking about 319.

21 A. Right.

22 Q. Yes; yes, sir.

23 A. So there might have been two conversations like that.

24 Q. Now let's talk about -- you mentioned 369. When it came
25 around to 369, you already had a pretty good idea of Speaker

1 Boehner's -- what he was looking for, didn't you?

2 A. I don't -- I don't know that I would say that. For
3 example, at one -- we had a number of very important
4 congressmen, and we had two members who were regarded as
5 bishops on the appropriations committee who were Republicans
6 and -- obviously, that may mean something to you. We had a
7 Democrat member of the appropriations committee as well from
8 Toledo. So, to some extent, I -- I had a sense of where he was
9 on that. I think he appointed the members of committees. He
10 was Speaker of the House.

11 Q. Why don't we take a look at your deposition.

12 MR. FRAM: Page 134, six through 13.

13 Q. Do you see where it says: "But at this point, you had an
14 idea of what Speaker Boehner was looking for" --

15 Do you see that testimony?

16 A. Yes.

17 Q. "Oh, sure."

18 -- "in a congressional map?"

19 You said: "Oh, sure"; is that right?

20 A. Well, late in the process, we received an inquiry from him
21 about his potential representation of a portion which had not
22 been discussed, for example, at one point; namely, that he
23 would like to be representative for a very important federal
24 facility. In part, that would be Wright-Patterson Air Force
25 Base, the largest air force base in the United States.

1 JUDGE WATSON: We should probably read lines 14
2 through 16, too, for the full context.

3 MR. FRAM: Okay. I'll take a quick look. Line 14 --
4 "So you didn't need to" -- starting with: "So you didn't need
5 to speak with Speaker Boehner" --

6 That line, 14?

7 JUDGE WATSON: Yes.

8 Q. Going down to 16, the answer being, "No." Do you see that?
9 Okay?

10 A. Correct.

11 MR. FRAM: Please put that up so the witness has that
12 available.

13 A. He was actually talking to Huffman.

14 Q. And Huffman --

15 A. They were from the same part of the state.

16 Q. And as you said at lines 12 through 13, those thoughts had
17 been conveyed to you by Representative Huffman?

18 A. Correct.

19 Q. Okay. And just so there's no confusion, if you'd like, we
20 can take a look at the prior page of your deposition, 133,
21 lines 17 through the end of that page, line 25.

22 To be clear, what we're talking about here is the second
23 map, HB 369.

24 A. Yes.

25 Q. Okay.

1 A. Yes.

2 Q. So when you got around to HB 369, by then you had an idea
3 of what Speaker Boehner was looking for; isn't that right? By
4 that -- up to that point?

5 A. That's when the suggestion about Wright-Patt came up.

6 Q. But you didn't limit your answer just to Wright-Patt? You
7 knew, in general, what he was looking for; isn't that right?

8 A. I would say, in general, I understood what he was
9 discussing. Understand, at the same time, I was negotiating
10 with my colleagues who were Democrats in our -- in our House of
11 Representatives, who had different ideas from Representative
12 Boehner. They had wanted to bring a referendum at one point.
13 They were unsuccessful. And so I then met with them to see
14 what might be done that would be amenable to both sides.

15 Q. Okay.

16 A. And I particularly worked with their number two person in
17 the House.

18 Q. Okay.

19 A. I did not spend that much time with Boehner. I don't --
20 I'm not quite sure why that would be something that I would
21 have done. I'm pretty confident that he had his hands full
22 being Speaker of the federal house.

23 Q. Just so I understand, you referred to this referendum?

24 A. Yes.

25 Q. Did that have some role in the negotiations with the

1 Democrats?

2 A. Indeed.

3 Q. And you knew at the time when they were unsuccessful --

4 I think you just testified that they were being
5 unsuccessful in that referendum?

6 A. They were unsuccessful in obtaining the votes under our
7 Constitution, which were required, the signatures, on petitions
8 to bring that matter before the voters.

9 Q. And I think you mentioned a couple of times in your
10 testimony how there was a question of whether someone was an
11 incumbent or not, what was going to happen to that seat. Do
12 you recall that?

13 A. Indeed. When I was speaking with the Democrats.

14 Q. And did that come up also in the meeting in Washington,
15 D.C., what was going to happen to the incumbents?

16 A. I would say that it probably did. I -- I don't have a
17 recollection of it.

18 Q. Now, you didn't make the decision as to which incumbents
19 would keep or lose their seat in 2011, did you?

20 A. I -- I -- I certainly played a role in it.

21 Q. Okay.

22 A. We had a very important appropriations committee member who
23 was a Democrat from Lucas County, and it was important that, to
24 my mind, understanding the bishop system, that that lady's seat
25 be respected.

1 MR. FRAM: Why don't we put up on the screen if we
2 could, please, deposition page 25, lines 14 through 17.

3 A. Yes.

4 Q. I believe it starts with the phrase -- not quite there.
5 It's "Did you instruct Ms. Blessing." I apologize if I gave
6 you the wrong citation. "Did you instruct Ms. Blessing" --

7 A. That was my -- that was my theory of what we should do. We
8 should have the diminution of one Republican and one Democrat
9 from the delegation. The Republican would probably be a new
10 member.

11 Q. Okay.

12 A. And the Democrat would probably be the same. But that was,
13 in no small part, up to the Democrats.

14 MR. FRAM: If we could take a look at, I'm sorry, 26,
15 line 4 through 12.

16 Q. Do you see here you testified -- you were asked whether you
17 instructed now-Ms. Blessing --

18 That was Heather Mann back then; is that right?

19 A. Yeah. She married Representative Blessing's son.

20 Q. Okay. And you were asked whether you instructed her to
21 eliminate one Republican and one Democrat. And do you see what
22 you testified then?

23 A. Yes.

24 Q. You said -- in fact, you said -- you said No." You said,
25 quote, "That was done basically in the delegation," quote/

1 unquote, you say at line 7. Do you see that?

2 JUDGE BLACK: Yes, sir?

3 A. "That was done basically in the delegation."

4 JUDGE BLACK: Yes. Give me just a moment.

5 Defense counsel?

6 MR. STRACH: If we're going to read this part of the
7 deposition, we request that we also read lines 20 through page
8 27, line 3.

9 JUDGE BLACK: The Court's going to read the entire
10 transcripts that have been designated in the depositions.

11 MR. STRACH: Yeah, I don't -- I think this may be
12 designated, I'm not sure. But if he's going to read it in open
13 court in trial, we would like that part read, too.

14 JUDGE BLACK: And your citation was, one more time?

15 MR. STRACH: It was this same page, lines 20 through
16 25, going into page 27 through line 3.

17 JUDGE BLACK: Twenty-seven through line what?

18 MR. STRACH: Line 3.

19 JUDGE BLACK: Three. Why don't you throw that up
20 there for us so we can move along.

21 MR. FRAM: Right. I wasn't asking about Speaker
22 Boehner, his role. I just was trying to confirm that the
23 decision -- we can go back to, if we could, please, the passage
24 I had suggested.

25 JUDGE BLACK: We can go back to your passage and

1 continue to ask the witness.

2 MR. FRAM: Thank you, Your Honor.

3 Q. I'm not asking whether you know whether Speaker Boehner
4 made the decision in the delegation, just that one piece of
5 your deposition here where you said the decision was made --
6 "That was done basically in the delegation." That's all I was
7 asking about.

8 JUDGE BLACK: All right. So what's the question?

9 Q. I wasn't asking who in the delegation did it, but just --

10 JUDGE BLACK: Ask the question, please.

11 Q. Do you recall that testimony?

12 A. I presume that that delegation is the congressional
13 delegation as a whole.

14 Q. And it was your understanding that the decisions about
15 whether to eliminate to one Republican and one Democrat was
16 made within the congressional delegation as a whole?

17 A. Correct.

18 Q. Thank you. You didn't make that decision?

19 A. Initially, I sure did.

20 Q. So your sworn testimony in your deposition was incorrect,
21 is that what you're saying here today?

22 MR. STRACH: Objection, Your Honor.

23 A. No.

24 JUDGE BLACK: Sustained. You can ask it in a another
25 form.

1 MR. FRAM: Okay. All right.

2 Q. Are you saying -- do you disagree with the statement that
3 the decision as to whether eliminate one Republican and one
4 Democrat was done, basically, in the delegation?

5 A. Yes. At the end of the day, they agreed with my indication
6 of what I thought ought to be done.

7 Q. And so -- and do you agree that you never instructed Ms.
8 Blessing to eliminate one Republican and one Democrat?

9 A. I think that's correct. The answer to the question I was
10 asked in the deposition was that she didn't do that.

11 Q. And you didn't instruct her to do it?

12 A. That was done early on as we negotiated between the two
13 caucuses.

14 Q. And the delegation where the decision was made was a
15 Republican delegation; is that right?

16 A. I cannot answer that.

17 Q. Okay. You don't know?

18 A. No. I do know that the Republicans eliminated someone, and
19 the Democrats did likewise.

20 Q. Okay.

21 A. And when we say eliminated, obviously, they could file in a
22 primary and run.

23 Q. I think you just said that you did have a role in deciding
24 how the incumbents were eliminated or not; is that right?

25 A. I had a role in that decision.

1 Q. Okay.

2 A. I felt it was appropriate that the Democrats retain their
3 member of the appropriations committee, because she was one of
4 the bishops, and I felt that it was appropriate that the
5 Republicans probably should retain Boehner since he was Speaker
6 of the House, for example.

7 Q. And on the Republican side, there was a pairing or setoff
8 of Representatives Turner and Austria; correct?

9 A. Correct.

10 Q. Okay.

11 A. That was my understanding from the outside.

12 Q. Why don't we take a look at 73, lines six through 11. Do
13 you see you were asked in your deposition, "Who made the
14 decision, of the 13 Republican congressmen, that Congressman
15 Austria would be the one to lose his seat?" Do you see that?

16 A. I do.

17 Q. And your answer was, quote, "I don't have a clue."

18 A. Yes.

19 Q. Do you stand by that testimony?

20 A. I stand by it in the context of what was transpiring. As I
21 indicated to you in answer to an earlier question, we had a
22 much closer relationship between the Senate and what was going
23 on in Washington than we did with me. Austria was a former
24 senator.

25 Q. But at least as regards the pairing on the Republican side

1 between Turner and Austria, your testimony is you, personally,
2 didn't have a clue as to why that decision got made; isn't that
3 right?

4 A. Exactly, yes. I was a little bit surprised when they
5 didn't hold on to a former senator. The Senate is a different
6 institution in Ohio from the House.

7 Q. Now, you talked about, in your direct testimony, how the
8 map was drawn in Summit County. Do you recall that?

9 A. I do. Vaguely, at this point.

10 Q. Well, do you recall part of Summit County had been
11 represented before the redistricting by Representative Betty
12 Sutton?

13 A. I do. She served with me in the statehouse.

14 Q. And after the redistricting, she ran against Representative
15 Renacci; do you recall that?

16 A. Well, I don't recall that he was a representative at that
17 point, but I -- he could have been.

18 Q. She ran against Mr. Renacci --

19 A. Mr. Renacci.

20 Q. -- in the 16th District; isn't that right?

21 A. I believe that to be the case, yeah.

22 Q. And he prevailed; isn't that correct?

23 A. He did.

24 Q. So she lost her seat after the redistricting; isn't that
25 right?

1 A. Yes. But I had served with her earlier in the statehouse.

2 Q. You testified earlier you had conversations with Mr.
3 Forbes. Do you recall that?

4 A. Yes.

5 Q. You never personally had communications with Representative
6 Fudge yourself, did you?

7 A. No. No, I didn't know her. I -- I knew, because of the
8 representation of my friend, that that was what the desire of
9 the -- Mr. Stokes was.

10 Mr. Stokes and I did communicate, but not on that issue.

11 Q. Now, I want to apologize in advance because I may get the
12 gentleman's name mispronounced, and he's passed, and so I
13 doubly apologize for getting his name wrong, but a fellow
14 called Alex Arshinkoff.

15 A. Arshinkoff (pronouncing).

16 Q. All right. Arshinkoff.

17 A. His family was from Macedonia.

18 Q. Thank you. He was the Republican county chair for Summit
19 County; is that right?

20 A. He inherited Ray Bliss' job.

21 Q. And you had an understanding about what he thought about
22 what was happening to Summit County in connection with District
23 11; isn't that right?

24 A. Yes.

25 Q. And certain voters were going to be put into District 11,

1 carved out of Summit County; isn't that right?

2 A. Indeed.

3 Q. And you understand that he didn't think that was much of a
4 loss to him; is that right?

5 A. Well, he -- he, essentially, had a county that was fairly
6 balanced, and so, yeah, that was what I think was involved
7 in -- some of his thinking.

8 Q. And part of his thinking was that having these voters go
9 into District 11 was not going to be a loss to him; is that
10 right?

11 A. Yes, I think that's right. I'm not so sure what the
12 context of that was, but --

13 Q. Wasn't the context that they weren't a loss to him because
14 they were mostly, as you testified, black Democrats that were
15 moving out?

16 A. A significant number of the people in those wards --

17 These are wards we're talking about now?

18 Q. Wards.

19 A. Those wards were African-American. But also that he did
20 not do well in those areas, to the extent that they were not
21 African-American.

22 Q. And by moving those wards into District 11, that could make
23 the other districts in Summit County more Republican; isn't
24 that right?

25 A. He did not say that.

1 Q. But you thought that was his thinking; isn't that the case?

2 MR. STRACH: Objection.

3 A. I -- I was not --

4 JUDGE BLACK: Noted.

5 A. To know Alex was to construe what he said on occasion
6 inferentially.

7 MR. FRAM: Why don't we put up 96, 13 through 25.

8 Q. Now I can show you the rest. I don't mean to only show you
9 a portion, but I'll represent to you this is the part of your
10 testimony where you're talking about Summit County and the
11 Summit County Republican chair's thinking.

12 A. Now, I'm not sure what the question was about. Is the
13 question that --

14 Q. The question is whether or not he was willing to see those
15 African-American voters go into District 11 because it helped
16 the other districts in Summit County be more Republican.

17 A. I'm sorry that -- when I say I presume that was in his
18 thinking, I don't think he wanted to give away Fairlawn and
19 other districts, count -- cities that were Republican.

20 Q. And the other districts, congressional districts where
21 Summit County was included, they became more Republican by
22 virtue of putting some of the African-American wards into
23 District 11; isn't that right?

24 MR. STRACH: Objection.

25 A. I do not have --

JUDGE BLACK: Noted.

A. I do not have that knowledge.

Q. Well, it was your understanding that was Mister -- that was the thinking of the Summit County Republican chair?

MR. STRACH: Objection.

JUDGE BLACK: Noted.

A. I -- I wish you'd known Alex. You would have a different view of his recitation of what it was he was thinking. He was not opposed to that.

Q. He was not opposed to having the African-American voters go into District 11?

A. He was not opposed to changing the districts.

Q. Okay. Including having African-American voters go into District 11?

A. I would not -- I knew Alex a long time, and I think he assumed that for, whatever reason -- they had four congressional districts in that county, and I think it was a -- I was certainly not going to pursue the question of what it was. He might have wanted to get rid of one of the Republicans. It was Ray Bliss' county. I would not presume, given the context of that county, that all of those areas would have been white, if that's your suggestion.

Q. The question was simply whether or not you presumed his thinking was that by moving the African-American voters into CD11, the other districts became more Republican, as you

1 testified in your deposition?

2 A. Yes, and I think that was the case. That does not mean
3 racial, necessarily. There were many black Republicans in
4 Summit County.

5 Q. Okay. Now, you mentioned negotiation with the Democrats a
6 few times in your testimony?

7 A. Yes, yes.

8 Q. I think you mentioned you had a lot of new members in the
9 House after the 2010 election?

10 A. Yes.

11 Q. And you became the majority?

12 A. We did.

13 Q. Yes.

14 A. I was having regular meetings with my new members, needless
15 to say.

16 Q. And as the majority, you could pass a congressional map the
17 way the majority wanted; isn't that right?

18 MR. STRACH: Your Honor.

19 JUDGE BLACK: Yes?

20 MR. STRACH: We're just going to renew our request
21 under Rule 611. It sounds like we're taking a trip through
22 Speaker Batchelder's deposition, and we could be here a while
23 if that's the way it's going to go.

24 JUDGE BLACK: You may proceed.

25 MR. FRAM: I believe there has been testimony about

1 these negotiations.

2 A. I was working with the number two man in the Democratic
3 caucus.

4 Q. But given that you were in the majority --

5 A. Yes.

6 Q. -- you could have done what you wanted to on this bill;
7 isn't that right?

8 A. That was not my premise. I had four votes against my bill,
9 from Republicans.

10 MR. FRAM: Why don't we look at page 25, lines 12
11 through 14. "We had a situation." You can take it from the
12 top the whole answer. Why don't we take it from line 7.

13 Q. I want you to be able to read the whole thing.

14 A. Yes.

15 Q. So, in fact, given that you had the majority, you could
16 have simply done what you wanted to do; isn't that right?

17 A. Yes. I don't think, perhaps, you have an understanding of
18 the dynamics of legislative process, sir. Bottom line, I was
19 working with Democrats on many bills. I had a brand-new
20 governor downstairs. I had situations within our caucus where
21 four of my members ended up voting against the bill. We had a
22 female member who was one of the bishops who was a Democrat. I
23 was, in my opinion, not in a position to just do any darn thing
24 I wanted. I had to take account of the Democrat support that I
25 had. I had been there through half a lifetime, and I worked

1 with the Democrats, and this was not new.

2 Q. Well, and so I'm not going to ask you to tell me things
3 they said or not, but I do want to just say, you're telling us
4 here that the Democrats -- I'll be specific. That one of the
5 Democrats who was -- who you were in contact with was minority
6 leader Budish; is that right?

7 A. Well, that became a little bit difficult. Mr. Budish was
8 in Miami. It's a long distance to vote. I was working with
9 the member whose congressional member was one of the bishops on
10 the appropriations committee from Lucas County.

11 Q. Do you recall Mr. Budish putting forward any proposals?

12 A. Never a bill.

13 Q. Never a bill. Any proposals in negotiations?

14 A. Not to my knowledge.

15 Q. What about members of the black caucus? Did they purport
16 any proposals?

17 A. I worked closely with a number of members of the black
18 caucus who were friends and who had been supportive of me.

19 Q. And at some point, the changes they proposed, they got
20 pushed aside; isn't that right?

21 A. Well, I don't think that's a fair statement. They voted
22 with me on the final bill.

23 Q. Why don't we look at your deposition. Page 170, lines 19
24 through 25. Do you see here where you testified?

25 A. Is this on 319, House Bill 319, or is this on 369?

1 Q. It's on 369.

2 MR. STRACH: I'm going to --

3 JUDGE BLACK: Counsel for the --

4 A. Well, I, obviously, misunderstood the question, then,
5 because --

6 JUDGE BLACK: Excuse me, sir. Just give me a moment.

7 THE WITNESS: I'm sorry, Judge.

8 MR. STRACH: I don't know that there's anywhere on
9 that page that mentions 369. I just want to note that for the
10 record.

11 JUDGE BLACK: Okay.

12 Sorry to interrupt, sir. They're going to ask you a
13 question.

14 THE WITNESS: Okay. Please go ahead, sir.

15 Q. My question was, in negotiations over 369, at some point
16 the changes put forward by the black caucus were pushed aside;
17 isn't that right?

18 A. I don't -- I did not understand that question in the
19 deposition that way. Mr. Budish was not there.

20 Q. What about the black caucus: Were their changes pushed
21 aside?

22 A. No.

23 Q. Okay.

24 A. They voted with me. I had a longstanding relationship with
25 the black caucus.

1 Q. Now, during the time of that negotiation on the bill, there
2 was a time when 369 was introduced --

3 A. Yes.

4 Q. -- and a time that it's enacted?

5 A. Yes.

6 Q. There's a few weeks that go by; do you recall that?

7 A. How many weeks?

8 Q. A few weeks.

9 A. A few? Yeah.

10 Q. Roughly November 3 is when it's introduced and December 14
11 when it was voted on.

12 A. Right.

13 Q. Is that consistent with what you recollect?

14 A. Those are the dates.

15 Q. Okay. And it's your understanding, isn't it, that there
16 really weren't any differences of any definition between the
17 bill as introduced and the bill as enacted; isn't that right?

18 A. That -- I -- I can't indicate that or not. Without the
19 paper in front of me, I can't do that.

20 Q. Let's take a look at your deposition, 166, lines 16 through
21 19.

22 Do you see where you testified whether you could recall any
23 differences between the second map as it was introduced versus
24 as it was enacted? Do you see that question?

25 A. Yes.

1 Q. And your answer was: Not with any definition, no.

2 JUDGE WATSON: Is that any different than what he just
3 said on the stand?

4 MR. FRAM: Well, that's what I'll inquire.

5 JUDGE WATSON: I don't think so.

6 Q. You say you don't recall any difference of any definition;
7 is that what you're saying?

8 A. I'm -- I'm not sure what the context of that is, to tell
9 you the truth, not with any definition. There were
10 certainly -- there were certainly some changes in the bill, but
11 those had to do with things that my colleague, who was number
12 two in the Democrat leadership, and I discussed. It may well
13 be that that reflected the introduction of the second map. In
14 other words, they were accommodated.

15 Q. Well, let's talk about the accommodations you made or
16 didn't make.

17 I'd like to -- we have hard copies of this for impeachment
18 purposes. It's a document, the Ohio House of Representatives
19 Journal.

20 MR. FRAM: Your Honor, may I approach?

21 JUDGE BLACK: Yes. Thank you.

22 Q. And just for the record, this is the *Ohio House of*
23 *Representatives Journal*, dated Thursday, November 3, 2011,
24 which we've marked for identification as IM68. And I'd like to
25 draw your attention to under Bills for Third Consideration. Do

1 you see that?

2 A. I do.

3 Q. And do you see where it says there that there was a motion
4 to suspend the rules on the bill, HB 369, at the bottom of the
5 third page, in the Bills for Third Consideration? I believe
6 it's page 1361 of the journal, at the bottom of the page.

7 A. Yes.

8 Q. And do you see where that motion failed? Is that
9 consistent with your recollection. The next page.

10 A. Representative Blessing's motion -- pardon me.

11 Representative Blessing's motion to -- requiring bills to
12 be considered on -- by each House on three different days be
13 suspended, the bill be taken up for immediate consideration the
14 third time so the motion would be agreed to. Yeas, 58; nays,
15 34.

16 Q. And the yeas were Republicans; is that right?

17 A. The yeas are -- I -- 58 votes. And the nays, at least,
18 were mostly Democrats. I don't know who -- which Hagan. I
19 have three Hagans in the house. I don't know which. So the
20 motion wasn't agreed to.

21 Q. And after -- after the motion was not agreed to, you spoke
22 to the press, did you not?

23 MR. STRACH: Your Honor, I just want to note for the
24 record, I don't -- it's been represented that that was used for
25 impeachment purposes. I don't believe it was used for such a

1 purpose, but I'm just noting that for the record.

2 JUDGE BLACK: Very well.

3 MR. FRAM: That was foundational to the next point
4 we're getting to here.

5 Q. So you spoke to the press, did you not, right after the
6 motion failed?

7 A. I believe that the press probably came up to me after the
8 session. I don't know how much I spoke to them. Every so
9 often we'd have the deference of going down the other side.

10 MR. FRAM: Why don't we show you another documented
11 marked for impeachment purposes. This one will be IM66. It's
12 a newspaper article from *The Columbus Dispatch* also dated
13 November 3, 2011.

14 MR. STRACH: Your Honor, is he going to impeach his
15 answer that he spoke to the press? I don't understand what the
16 impeachment purpose is.

17 JUDGE BLACK: The Court's not blind. It sees your
18 objection.

19 MR. STRACH: Thank you.

20 A. Oh.

21 Q. Now, just -- we're getting started here. That's your
22 picture up there in the upper part of the page?

23 A. I would have to confess, as silly as I look, yes.

24 Q. I've taken far worse, so we've all been there.

25 A. We've all been there. I suspect I was somewhat unhappy.

1 Q. You might have been unhappy that day. Do you see where it
2 says --

3 MR. FRAM: If we can put it up on the screen maybe.

4 Q. The language right under the picture?

5 A. Yes.

6 Q. Well, do you see where it says that quote, "if Democrats
7 did not provide the votes to suspend House rules and pass the
8 map as an emergency measure, or do not work out another deal in
9 the near future, the next GOP-drawn map is going to get worse
10 for the minority party"? Do you see that?

11 A. Yes.

12 Q. Did you say that to the press back around November 3, 2011?

13 A. Well, that might have been my comment at that point given
14 the fact that we had, after all, worked through this thing over
15 an extensive -- perhaps that's when the Democrat leader went to
16 Miami. I --

17 MR. FRAM: Your Honor, I have nothing further.

18 JUDGE BLACK: Very well.

19 MR. STRACH: Nothing further, Your Honor. May I
20 approach the witness and help him down?

21 JUDGE BLACK: Yes. The intervenors are not examining,
22 correct?

23 MS. PROUTY: No, Your Honor.

24 JUDGE BLACK: So we are done with this witness?

25 MR. STRACH: Yes, Your Honor.

1 JUDGE BLACK: Speaker Batchelder.

2 MR. STRACH: Speaker.

3 THE WITNESS: Sir?

4 JUDGE BLACK: You're done with questions. You appear
5 to have survived.

6 THE WITNESS: Would you like me to make a few remarks?

7 JUDGE BLACK: I don't often get a chance to say it,
8 but you're free to go.

9 THE WITNESS: I appreciate that, sir.

10 JUDGE BLACK: On behalf of the Court and the
11 community, thank you for the work you have done for our state.

12 THE WITNESS: I appreciate that very much. Thank you,
13 sir.

14 JUDGE BLACK: Very well.

15 The gentleman is threatening to assist you.

16 (Witness excused.)

17 JUDGE BLACK: Ladies and gentlemen, we are going to
18 take our mid-morning break. We are going to break for 20
19 minutes and come back at five minutes of 11:00. And we are
20 going to circulate our proposal as to post-trial briefing so as
21 to ruin your break. We're in break until five of 11:00.

22 COURTROOM DEPUTY: All rise. This Court is in recess
23 until 10:55.

24 (Recess taken: 10:37 AM - 10:59 AM.)

25 JUDGE BLACK: Thank you. Please be seated.

1 All right. We're back in the courtroom. It's almost 11:00
2 o'clock. We're on the record.

3 The Court extended its proposal. Do you wish to respond to
4 it now or continue with the taking of testimony? Plaintiff
5 wish to be heard on the Court's proposal or do you want more
6 time to think that through?

7 MR. FRAM: Your Honor, we are prepared to offer one
8 thought regarding the Court's proposal, not to repeat what I
9 said earlier. Just looking at the Court's proposal where it
10 says that, quote, "By the same deadline, plaintiffs shall file
11 their reply, conclusions of law, 30-page limit," that
12 sentence -- we would like, it's unlikely, but we would like the
13 opportunity, if our reply included anything about the facts,
14 the findings of fact, that we could also say so in that reply.
15 Again, presumably, we'll say everything we have to say on the
16 first go-round, but if there's something they've said in their
17 findings, within the same 30-page limit, we're not asking you
18 to extend it, that we have that opportunity, that flexibility.

19 JUDGE BLACK: All right. I hear you.

20 Did you wish to be heard at this time or do you want to
21 wait?

22 MR. STRACH: We're ready. We have a few other points.

23 On that point there, I think it would be appropriate if
24 they were able to reply on the findings of fact, that we would
25 be able to do a surreply. So if the Court does that, we would

1 appreciate the Court giving that some consideration. That's --
2 I'll throw that out there.

3 We actually are quite pleased with the Court's proposal.
4 We do have some questions/comments that we would raise for the
5 Court's consideration.

6 With regard to the language that says, "The plaintiffs
7 shall file their proposed findings," et cetera, "within ten
8 actual days of the close of trial," we would request that that
9 be written to say "no earlier than ten actual days," so that we
10 know that there's a date certain that they will be filed, which
11 then our five days will be keyed off of. So we're just looking
12 for some certainty in the date so we can plan our work. That's
13 number one.

14 Number two, we have a question about if the tenth day were
15 to fall on a weekend, like a Saturday, under the rules,
16 generally, the next deadline would begin to run Monday. Would
17 that apply here or not? You know, we just want clarification
18 on that, however the Court wants to go on that.

19 Third, the conclusions of law, 50-page limit, I think I'll
20 just be getting warmed up in 50 pages. This is, obviously, a
21 complicated case. It's a very novel legal claim, been a lot of
22 litigation over it. So we were hoping we could get at least a
23 hundred pages on the conclusions of law. That's just a
24 request.

25 And then, finally -- excuse me. Okay, Your Honor.

1 JUDGE BLACK: Yes. I was just reacting to the hundred
2 pages.

3 MR. STRACH: And then, finally, we note that this does
4 not explicitly address the separate post-trial brief that the
5 Court indicated it wanted. We thought it might be useful for
6 the Court to add that in. Those are all of our comments.

7 JUDGE BLACK: You sure that's all of them?

8 MR. STRACH: That's all, yes, sir.

9 JUDGE BLACK: Very well.

10 Intervenors?

11 MS. PROUTY: Intervenors join in with defendants.

12 JUDGE BLACK: Very well. We'll give it some thought
13 and we'll get back to you. We appreciate your comments. We're
14 trying to do this in a way that works efficiently for the Court
15 and is responsive to the parties' desires.

16 Are we ready to proceed to the taking of additional
17 testimony?

18 MR. FRAM: I think it should be -- probably no need to
19 be said, but I just want to say it for the transcript, but, of
20 course, we oppose any surreply.

21 JUDGE BLACK: Okay. Fair enough.

22 Do you want to surreply to his comment?

23 MR. STRACH: None needed, Your Honor.

24 JUDGE BLACK: That's a credit to you.

25 All right. Are we ready for another witness?

1 MR. STRACH: Yes, Your Honor. The defendants call Mr.
2 Troy Judy.

3 JUDGE BLACK: Very well. That person is approaching.
4 I'm going to send you to the witness stand over here, sir. If
5 you'd be willing to pause for the oath to tell the truth. Do
6 you solemnly swear or affirm the testimony you'll give today is
7 the truth, subject to the penalty of perjury?

8 THE WITNESS: I do.

9 JUDGE BLACK: Very well. Go ahead and climb up in the
10 stand. The chair tips back, so get acclimated, and then we'll
11 need you close to the microphone.

12 And, counsel, you can begin when you're ready.

13 MR. STRACH: Thank you, Your Honor.

14 TROY C. JUDY

15 a witness herein, having been first sworn, testified as follows:

16 DIRECT EXAMINATION

17 BY MR. STRACH:

18 Q. Mr. Judy, could you state your full name for the Court?

19 A. Troy C. Judy.

20 Q. And spell Judy for the court reporter.

21 A. Judy is spelled J-u-d-y.

22 Q. All right. Could you give the Court just a general sense
23 of your professional background.

24 A. Yes, I began my career at the Ohio House of Representatives
25 as a page and an intern. I spent a number of years as a

1 legislative aide, then as a senior legislative aide.

2 After that, I began working on the campaign side with
3 then-Representative Batchelder. When he was elected minority
4 leader, he asked me to be his minority chief of staff. I spent
5 two years as minority chief of staff where then, after the
6 Republicans took the majority, I spent four years as majority
7 chief of staff. And in 2015, when Speaker Batchelder term
8 limited out, we opened our government affairs consulting
9 company where I've spent the last four years as a lobbying
10 consultant at The Batchelder Company.

11 JUDGE BLACK: Very well. Can we pull that microphone
12 in front of your mouth as opposed to off to your right.

13 There we go. Perfect. Some of the judges have trouble
14 hearing.

15 Q. So you mentioned The Batchelder Company. Is that named
16 after Speaker Batchelder?

17 A. It is.

18 Q. Does he have any ownership or does he lobby for --

19 A. He does not. It's an honorary position.

20 Q. All right. At the time of the 2011 congressional
21 redistricting, then, you were chief of staff to the majority?

22 A. That's correct.

23 Q. And so who did you directly report to?

24 A. I reported directly to the Speaker.

25 Q. Okay. There's been some testimony about the task force on

1 redistricting, the legislative task force. Do you know what
2 that is?

3 A. Yes, I do.

4 Q. What's your understanding of what the task force role in
5 redistricting is?

6 A. It's the Legislative Task Force on Redistricting,
7 Reapportionment and Demographic Research, and it is a -- sort
8 of an administrative statutory vehicle by which appropriations
9 are made in order to spend money on behalf of the official work
10 that is done with respect to the census and drawing both the
11 state lines and the congressional lines.

12 Q. All right. So does the task force adopt or draw any maps?

13 A. They do not. The money that is appropriated is actually
14 then divided equally between both parties. Both the
15 Republicans and Democrats have an equal amount of money by
16 which they can hire consultants, buy computers, rent software,
17 in order to assist them in the task of reconfiguring districts.

18 Q. All right.

19 I'm going to focus you in now on the final map that was
20 adopted, HB 369. Are you familiar with that map?

21 A. I am.

22 Q. And I want to focus you, further, on Congressional
23 Districts 11 and Congressional District 3. Are you familiar
24 with those districts?

25 A. Yes.

1 Q. Can you provide the Court any information about why those
2 districts were drawn the way they were?

3 A. The two districts, 11 and 3, as I recall, were priorities
4 for Speaker Batchelder in that, you know, we were dealing with
5 two separate pressures, both the loss of the representation of
6 two districts due to other states growing faster than Ohio,
7 and, then, also, just population shifts, meaning the outflow of
8 the numbers of people out of Cuyahoga County, for instance, and
9 the influx of people into Franklin. And so, you know, dealing
10 with those two dynamics meant that, you know, we had to couple
11 his priorities with the changing demographics.

12 He has a few long-standing relationships with the
13 African-American community, one in Cleveland, in particular,
14 George Forbes, and a number of others in which he's consulted
15 for some odd 30 years or so of his career with respect to any
16 issues that would affect the African-American community.

17 With respect to the district in Cleveland, I -- the first
18 instance I recall anything about that district is his remarking
19 about a *Cleveland Plain Dealer* article about the shape of it in
20 that the article described it as a barbell shape, meaning it
21 came from Cuyahoga County down into Summit County and into
22 Akron.

23 MR. FRAM: Objection. Hearsay as to comments made by
24 Speaker Batchelder. Foundation as regards demographics of the
25 districts.

1 JUDGE BLACK: Heard.

2 Q. Well, Mr. Judy, what about the district in Franklin County:
3 What's your understanding of why the district was drawn the way
4 it was?

5 A. My understanding, at the time, Speaker Batchelder was in
6 consultation with a number of business leaders and, again,
7 leaders of the African-American community in Franklin County,
8 and his relationship with Congresswoman Beatty and her husband
9 Otto Beatty led him to have a priority to create a central
10 district in Franklin County encompassing Columbus and having
11 representation specifically for Congressman Joyce Beatty.

12 MR. FRAM: Objection. Motion to strike. Disregard
13 statements by Speaker Batchelder, comments related regarding
14 representative Beatty, comments from the Columbus business
15 community.

16 JUDGE BLACK: Understood. The objection is noted.

17 Q. So was it your understanding and belief that the reason for
18 the shape and location of Congressional District 11 was based
19 on Speaker Batchelder's conversations and relationships that
20 you've described?

21 A. Absolutely. Those -- those were definite -- absolutely
22 part of why he -- why he was in favor of, you know, what he
23 ultimately did in the map.

24 Q. And did he ultimately instruct you and others in the House
25 to draw the district that way?

1 A. He communicated those priorities to us, yes.

2 MR. FRAM: Objection. Hearsay.

3 JUDGE BLACK: Very well. Noted.

4 Q. And was it your understanding and belief that the reason
5 for the shape and location of Congressional District 3 was
6 based on Speaker Batchelder's relationships with and
7 conversations with the Beattys?

8 A. That's correct, yes.

9 MR. FRAM: Objection.

10 A. He communicated that directly to me.

11 MR. FRAM: Objection. Hearsay.

12 JUDGE BLACK: Indeed. You've got a standing order on
13 that.

14 MR. STRACH: Thank you, Your Honor.

15 Q. Let me focus you in on sort of the time period, the month
16 or so before House Bill 369 was finally enacted. Was there any
17 negotiating with the Democrats going on in that time period, to
18 your knowledge?

19 A. Yes. There were quite a different -- quite a number of
20 things happening at the time. After 319 was passed, the
21 Democrats, of course, announced a referendum on the bill and
22 began collecting signatures. The -- I believe there was a
23 court ruling, I can recall. The Ohio Supreme Court had
24 ruled -- had divided 319 up, which caused some confusion with
25 the primaries and filing dates of which there was now two. And

1 so we were getting, you know, many, many calls from people with
2 confusion about when to file, when the primaries would be, what
3 district they would be in. And with the overarching pressure
4 of a referendum, it led us to begin conversations with members
5 of the Democratic caucus, a number of them which I actually
6 directly interacted with at the direction of Speaker
7 Batchelder.

8 Q. All right. How did you know specifically what the
9 legislative Democrats wanted in terms of changes to 369?

10 A. I communicated directly with a number of them. There was a
11 member out of Columbus, Representative Carl Weddington, who
12 visited with me in my office, as far as I can recall, at least
13 once, whereupon, you know, we actually pulled up the map on my
14 computer. He sat with me and talked about some of the changes
15 he would like to see. He then pulled out his cellphone and
16 dialed another representative -- Dale Mallory -- and put him on
17 speakerphone. We discussed things that Representative Mallory
18 would like to see in the Cincinnati area. And another
19 gentleman that we -- I had direct conversations with was
20 Representative Clayton Luckie out of the Dayton area, and we
21 talked about changes in the Montgomery County area and Clark
22 County areas.

23 Both of those -- or all those discussions were really
24 precipitated by the Speaker's direction of -- he asked of
25 myself and Representative Huffman to begin very quiet

1 conversations with the Democrats to see what changes they would
2 like to see in a map in order to garner bipartisan support of a
3 bill, a new bill. And one of the gentlemen who was, you know,
4 very instrumental in communicating with us was a guy by the
5 name of Bob Bennett. He served as the back channel to
6 Congresswoman Fudge, actually, to communicate with us about the
7 shape of that district, in particular. And he was also in
8 contact with a Democratic leader from the Toledo region, Jim
9 Ruvolo, who then communicated to us about what the shape of the
10 Kaptur district should look like and what Democrats should be
11 paired together, actually.

12 MR. FRAM: Your Honor, a series of hearsay objections
13 for a whole host of different individuals, but I assume that's
14 subject to the Court's order on standing?

15 JUDGE BLACK: Yes. You have a standing order on --

16 MR. FRAM: Thank you.

17 JUDGE BLACK: -- statements made by somebody outside
18 of court who's not testified.

19 MR. FRAM: Thank you, Your Honor.

20 Q. With respect to the conversations that you had with
21 Representative Weddington, Representative Luckie and
22 Representative Mallory, did those -- did the statements that
23 those gentlemen made to you directly result in changes that you
24 made to the map?

25 A. Those statements ended up being put into map files that I

1 then exchanged with the minority chief of staff at the time,
2 Keary McCarthy. And those changes were incorporated in
3 different versions that he and I exchanged back and forth for,
4 I want to say, a few weeks. There were several exchanges of
5 map files that would incorporate various changes that they
6 wanted to see, yes.

7 Q. Did you and Mr. McCarthy occasionally exchange proposed
8 maps during this time?

9 A. Yes, that's correct.

10 Q. In any of the maps that you received from Mr. McCarthy at
11 this time, did any of them propose a CD11 that was materially
12 different from the one proposed by Republicans?

13 A. No.

14 Q. And in any of the maps that you received from Mr. McCarthy
15 during this time period, did any of them propose a
16 Congressional District 3 that was materially different than the
17 one proposed by the Republicans?

18 A. No.

19 Q. You mentioned a person named Bob Bennett. Who was he?

20 A. At the time he -- I believe he was the outgoing chairman of
21 the state Republican party.

22 Q. And is he still alive?

23 A. He is not.

24 Q. Do you know when he -- when he passed?

25 A. Three, four years ago.

1 Q. Okay. Do you know whether he had any direct conversations
2 with Representative Fudge?

3 A. I know what he told me, and he communicated to me that he
4 was in contact with Representative Fudge.

5 Q. All right. Did he ever tell you how Representative Fudge
6 felt about the configuration of CD11?

7 A. Yes. He communicated to me that she was pleased with the
8 configuration that was in 369.

9 Q. Was your understanding and belief of Representative Fudge's
10 comments on that through Mr. Bennett a reason why the district
11 was drawn that way?

12 A. At the time, we -- we wanted to make changes and
13 incorporate things that Democrats wanted to see, and since Bob
14 Bennett had communicated to us that she would like to see that,
15 it absolutely influenced how we did that.

16 Q. All right. And you mentioned that Mr. Bennett had some
17 conversations with you regarding the -- was it Congressional
18 District 9?

19 A. Yes.

20 Q. And what did he relay to you about that?

21 A. As I said earlier, one of the pressures we were dealing
22 with was the loss of two congressional seats and Republican
23 leadership at the time, that the feeling was that it was fair
24 for there to be one pairing of a Republican incumbent district
25 and another for a Democrat. And among the Republican

1 leadership at the time, the sense was that we would defer to
2 the -- to the Democratic leaders of the state on who and what
3 district that would be. And so what Bob Bennett relayed to me
4 was that the leadership, through Jim Ruvalo and some -- I'm not
5 sure who else he was speaking with, but he relayed to me that
6 the leadership of the Democratic -- Democrats would like to see
7 Kaptur and Kucinich paired together. And so our -- you know,
8 our thought all along, and feeling, was that we were doing what
9 the Democrats asked us to do.

10 Q. All right. With regard to the pairing of Representative
11 Kucinich and Representative Kaptur, did you have any reason not
12 to believe what Mr. Bennett was telling you about what Mr.
13 Ruvalo was saying?

14 A. Not at all. These were long-standing relationships that he
15 had had for 30 years or more. In fact, Mr. Ruvalo, I believe,
16 was chairman of the Democratic party, and so his counterpart,
17 and so they had known each other a long time. And I'm not sure
18 we could have dreamed up a district that looked like the Kaptur
19 district on our own. In fact, we took a lot of flak for the
20 design of it. And since Republicans were in charge, I remember
21 there being several criticisms of the way we configured that
22 district, but we did so at the behest of the Democratic
23 leadership.

24 Q. So was it your understanding and belief, based on what Mr.
25 Bennett was telling you about the pairing of Kaptur and

1 Kucinich, is that what led to the drawing of the district the
2 way it was drawn?

3 A. Based on what Bob Bennett communicated to us, yes.

4 Q. All right. And so do you remember when the final vote was
5 taken, approximately, on House Bill 369?

6 A. Sometime in December, maybe the middle of December.

7 Q. All right. Can you tell the Court your understanding of
8 what precipitated that -- that vote?

9 A. Sure. Again, the context of it, we -- you know, there was
10 a lot of pressure with a mounting referendum campaign, the
11 confusion of the dual primaries and the filing dates, to have
12 these conversations with Democrats and make a compromise both
13 in negotiations and conversations with Matt Szollosi, who was
14 the assistant minority leader. There was a desire on both of
15 our sides to have a map that would have overwhelming bipartisan
16 support, and, thereby, you know, not allow a judicial body of
17 some sort to draw the congressional map, and to maintain the
18 control of the drawing of the congressional map inside the
19 legislative body. And so, really, what precipitated the vote
20 was the outside pressure and leverage, I believe, from both
21 sides to come up with a -- with a deal that reflected changes
22 that the Democrats wanted to see. And I think it resulted,
23 actually, in an overwhelmingly bipartisan bill that we passed.

24 Q. And so do you recall at that time any conversations or
25 meetings with Representative Szollosi on this topic?

1 A. I do.

2 Q. And what did Representative Szollosi -- what did they --
3 what changes did they want to have a final vote?

4 A. I can't -- I can't recall the specific changes. They did
5 have a small list of changes that they wanted to see. You
6 know, those were then given to the staffer or the consultants
7 that we hired on our side to incorporate in. That would be Ray
8 DiRossi and Heather Mann, or Heather Blessing. And we
9 instructed them at the time to make a -- to produce the map and
10 make the changes and then we would exchange the maps.

11 Q. And was it your understanding and belief that the
12 instruction was given to them to make those changes based on
13 the changes that Representative Szollosi communicated to you?

14 A. That's correct.

15 MR. STRACH: All right. Thank you.

16 Your Honor, that's all we have.

17 JUDGE BLACK: Very well. The attorney for the
18 plaintiffs has a chance to ask questions.

19 The scope of cross is what was addressed in direct.

20 CROSS-EXAMINATION

21 BY MR. FRAM:

22 Q. Good morning, Mr. Judy. Good to see you again.

23 A. Good morning, sir.

24 Q. We met at your deposition, do you recall?

25 A. I do recall.

1 Q. You said you were involved in the drawing of the HB 369
2 map; is that right?

3 A. That's correct.

4 Q. And in the work you did on drawing maps, I think you said
5 you reported to Speaker Batchelder; is that right?

6 A. That's correct.

7 Q. And in those reports, do you include reports on the
8 political leanings of a district?

9 A. We would include demographic reports, spreadsheets of
10 information with respect to income, education, household
11 composition, family characteristics, as well as a number of
12 columns of political data as well.

13 Q. And Representative Huffman also was involved in those
14 briefings?

15 A. That's correct.

16 Q. And some of those briefings took place at Speaker
17 Batchelder's office in the statehouse; is that right?

18 A. That's correct.

19 Q. Do you recall actually handing out spreadsheets with the
20 political electoral result data on them regarding particular
21 districts?

22 A. I recall data being circulated at meetings. I don't
23 recall, personally, doing so, though.

24 Q. Okay. Do you recall, whether you handed out the
25 spreadsheets or not, that there were hard copy spreadsheets

1 with political scorings handed out at these meetings?

2 A. I recall sheets of paper with many columns of demographic
3 data being circulated at the meetings. I do not recall
4 doing -- bringing the copies in myself and circulating them.

5 Q. I didn't ask whether you brought them in. I just asked you
6 whether you were present at a meeting where a spreadsheet with
7 the political data for a district was on that spreadsheet,
8 handed out in hard copy, at that meeting?

9 A. Oh, correct. I was.

10 Q. Okay. And Speaker Batchelder was there, and he could have
11 a copy; is that right?

12 A. That's correct.

13 Q. Representative Huffman was there. He could have a copy; is
14 that right?

15 A. Yes.

16 Q. And when a new district was drawn, there would frequently
17 be a new spreadsheet; is that right?

18 A. There were new calculations made, yes.

19 Q. New calculations of the political leaning of the district;
20 correct?

21 A. Well, the software would automatically reconfigure the
22 numbers as you moved the lines. And, again, that would be data
23 from voting age population to poverty to also the political
24 data.

25 Q. And there would be spreadsheets that would have a

1 comparison of the scorings for a district compared to a prior
2 map; isn't that right?

3 A. Correct.

4 Q. Comparisons related to the political leanings of the
5 district; correct?

6 A. Correct.

7 Q. And you would discuss the political leanings of a district
8 with Speaker Batchelder; correct?

9 A. We would discuss, you know, many, many things. I don't
10 recall, specifically, having a meeting on that topic. We
11 discussed all sorts of the data that were on the spreadsheets.

12 MR. FRAM: Why don't we put up deposition 43, lines 14
13 through 21.

14 Q. Do you see that testimony? It's from when we met at your
15 deposition.

16 A. I do see it.

17 Q. Is that truthful testimony?

18 A. It is.

19 Q. Thank you. Now, you mentioned there was a negotiation
20 around HB 369 from the time it was introduced until the time it
21 was enacted; is that right?

22 A. There were negotiations leading up to 369. This is after
23 319 was passed, and, due to the referendum, the confusion and
24 the -- and the chaos and pressure that came out of the
25 signature collections, negotiations began.

1 Q. But you don't recall negotiations taking place after it was
2 introduced?

3 A. I mean, negotiations did not stop, so the answer to that
4 would be yes, because they continued after 319 and continued on
5 until the bill was passed, so --

6 Q. And between the time the bill was introduced and the time
7 it was passed, it's your view that there were no significant
8 changes at all; isn't that right?

9 A. To particular districts.

10 Q. To the districts on the map?

11 A. Visually, yeah, there were -- visually, there were no
12 particular -- no particular changes, that's correct.

13 Q. No significant changes at all; isn't that right?

14 A. I mean, I believe I -- you know, I believe I would say --
15 say -- I don't have the numbers in front me that would show,
16 you know, what the changes were, but, visually, if we were
17 looking at two maps, they would look substantially similar.

18 Q. And you said there were some discussions -- let me ask a
19 question.

20 You don't recall, do you, any of the content of
21 communications from Representative Szollosi around 369; is that
22 right?

23 A. I do not.

24 MR. FRAM: Okay. Your Honor, that's all I have for
25 this witness at this time.

1 JUDGE BLACK: Very well.

2 MR. STRACH: Nothing further from the defendants.

3 JUDGE BLACK: The intervenors questioning?

4 MS. PROUTY: Nothing from intervenors, Your Honor.

5 JUDGE BLACK: You appear to have survived.

6 THE WITNESS: Thank you, Your Honor.

7 JUDGE BLACK: You are free to go.

8 THE WITNESS: Thank you.

9 JUDGE BLACK: Thank you.

10 (Witness excused.)

11 JUDGE BLACK: Okay. Where do we stand, from the
12 defendants perspective?

13 MR. STRACH: Your Honor, we're now going to start our
14 expert testimony. We have an expert -- Janet Thornton -- who
15 we're going to call next. I anticipate my direct of her will
16 go an hour and a half.

17 JUDGE BLACK: Well, let's get at least a half hour
18 under our belt at this point. If you'd be willing to call for
19 that witness.

20 MR. STRACH: Yes, sir, Your Honor. The defense calls
21 Janet Thornton.

22 JUDGE BLACK: If she'd be willing to approach. If
23 somebody wants to point the direction, they may assist.

24 You can just hurdle over that.

25 MR. STRACH: She's got an issue with her foot, so if I

1 may approach behind her.

2 JUDGE BLACK: Yes.

3 THE WITNESS: I'm getting there.

4 JUDGE BLACK: If you'd be willing to pause where you
5 are and raise your right hand for the oath to tell the truth.
6 Do you solemnly swear or affirm that your testimony today will
7 be the truth, subject to the penalty of perjury?

8 THE WITNESS: Yes.

9 JUDGE BLACK: Very well. The chair tips back, so take
10 some time getting oriented and seated.

11 THE WITNESS: Okay.

12 JUDGE BLACK: And we'll need you to keep close to that
13 special federal microphone.

14 THE WITNESS: Like that?

15 JUDGE BLACK: Are you comfortable?

16 THE WITNESS: As best I can be. Thank you.

17 JUDGE BLACK: You may begin your examination when
18 you're ready.

19 MR. STRACH: Thank you, Your Honor.

20 JANET R. THORNTON

21 a witness herein, having been first sworn, testified as follows:

22 DIRECT EXAMINATION

23 BY MR. STRACH:

24 Q. Dr. Thornton, could you state your full name for the
25 record, please?

1 A. Yes. Janet R. Thornton.

2 Q. Spell Thornton for the court reporter.

3 A. T-h-o-r-n-t-o-n.

4 Q. Could you describe your educational background to the
5 Court.

6 A. Yes. I have a master's degree and a doctorate degree in
7 economics from Florida State University. I also have a
8 bachelor's degree, one in economics and one in political
9 science from the University of Central Florida.

10 Q. All right. And what were your fields of specialization in
11 your educational background?

12 A. Labor economics and applied statistics.

13 Q. All right. And what's your current occupation?

14 A. Currently, I'm managing director at Berkeley Research
15 Group, where I serve as an economist and applied statistician.

16 Q. All right. How long have you been working as an economist
17 and an applied statistician?

18 A. For over 35 years. For the first 30 years of my career, I
19 was at a firm, Economic Research Services, or ERS Group, in
20 Tallahassee, Florida. And a few years ago, I changed firms to
21 Berkeley Research Group, also in Tallahassee, Florida.

22 Q. All right. What is Berkeley Research Group?

23 A. It's a firm of individuals who are, for example,
24 economists, applied statisticians, who prepare research and
25 analysis for -- related to questions involving government

1 entities, private firms, universities and individuals,
2 globally.

3 Q. All right. What does your experience entail, specifically?

4 A. I view myself as a researcher. For years, I have examined
5 various questions where I -- most times involves a lot of data
6 and statistical analysis to answer those questions.

7 Q. All right. Have you taught statistics?

8 A. Yes.

9 Q. When?

10 A. Occasionally, I teach statistics and quantitative methods
11 for the business school at Florida State University.

12 Q. All right. And have you done any presentations, et cetera,
13 on statistics?

14 A. Yes. From time to time, I'm asked to speak at conferences.
15 I also am asked to speak on webinars as well as seminars
16 regarding statistical modeling; statistical analysis; and in
17 the context of labor economics, addressing labor economic
18 questions.

19 Q. All right. What's your experience working with census
20 data?

21 A. I've been working with census data since the early 1980s,
22 and going back to working with data from the 1960 dicennial
23 census all the way up to the current time period where the
24 dicennial census has changed substantially, in the last
25 dicennial census, so that now data are collected more

1 frequently through the American Community Survey.

2 Q. All right. Are you a member of any professional
3 organizations?

4 A. Yes. I'm a member of the American Economic Association and
5 the National Association of Forensic Economists.

6 Q. And have you published in any peer-reviewed publications?

7 A. Yes. I've published in the *Journal of Forensic Economics*,
8 the *Journal of Legal Economics*, and I was the co-author of a
9 chapter in an anthology of developments in litigation
10 economics.

11 Q. All right. What types of statistical analyses do you
12 typically prepare as a professional?

13 A. I prepare all kinds of analyses, it just depends on what
14 the question is that we're trying to address. So depending on
15 the question, for example, from time to -- not time to time.
16 On a weekly basis I'm asked to determine whether or not there
17 is a statistical basis for disparate impact regarding questions
18 of race, gender, ethnicity, age, religion, looking at a variety
19 of questions.

20 Q. What about any of the voting context?

21 A. Yes. I've prepared statistical analyses that determine
22 whether, for example, there are differences, statistically
23 speaking, in voter participation rates by race and minority
24 status.

25 Q. All right. Are you familiar with something called a

1 binomial test?

2 A. Quite familiar with it.

3 Q. What is it and how often do you use it?

4 A. It's a standard test that's used when we are determining
5 whether there are differences, for example, between two groups,
6 and we do not have known information regarding a benchmark. In
7 other words, we need to use a proxy benchmark. When you don't
8 know an actual benchmark, you use the binomial distribution.

9 Q. Can you give an example?

10 A. Sure. I'll go back to the employment context. And suppose
11 that you have an employer and there is the allegation of
12 failure to hire minority accountants, and the firm does not
13 have data on the actual applicant flow to know who, among the
14 applicants for the accountant position, were minority and who
15 were non-minority. In that context, we need a proxy.

16 And so in that context we would use the decennial census.
17 And, actually, now we use the ACS data that supplies
18 information on the minority composition of accountants in the
19 workforce in different geographic areas. So we'd use that
20 information as a proxy rather than the actual applicant flow to
21 determine whether or not there is a statistically significant
22 difference between the actual composition of the accountant
23 hires and that which we would predict based on the proxy.

24 Q. All right. What's your experience in designing samples?

25 A. I have been asked to prepare defensible samples. I've been

1 asked to opine on sample sizes, on margins of errors, and on
2 stratification of samples.

3 Q. All right. How does your -- the experience that you've
4 described relate to the specific assignment you've been given
5 in this case?

6 A. Here, I've been asked to look at data and look at
7 underlying assumptions, and also to determine if there are some
8 statistically -- if there are statistically significant
9 differences, again, applying my experience with determining
10 whether or not there is statistically speaking differences?

11 Q. All right. Have you been qualified previously as an expert
12 in other proceedings regarding these subjects?

13 A. Yes.

14 Q. Have you prepared analyses for cases involving allegations
15 of discrimination?

16 A. Yes.

17 Q. In what way?

18 A. I've been asked to determine, statistically speaking,
19 whether there are statistically significant differences in
20 terms of race, gender, ethnicity, religion and age.

21 Q. All right. And about how many matters have you done that
22 in?

23 A. Well, I've lost count of times, but I've been retained to
24 work on matters for about 250, maybe more. I don't know.

25 Q. Have you ever testified in voting cases?

1 A. Yes.

2 Q. Can you name some of them for the Court?

3 A. Yes. I was retained by -- in matters involving the state
4 of North Carolina, the state of Virginia and the state of
5 Arizona.

6 Q. All right. Have you ever been excluded from testifying?

7 A. No, I have not.

8 Q. All right. What were you asked to do in this matter?

9 A. Generally, I was asked to review the data that Dr. Cho
10 relied upon and her underlying assumptions. I was also asked
11 to review a particular statistical test that Dr. Niven
12 prepared.

13 Q. All right. And how does your training and experience
14 relate to what you've done here?

15 A. It's exactly what I do on a daily basis. I look at data, I
16 look at assumptions and I look at statistical tests and I
17 prepare them as well.

18 Q. All right. Do you have experience with different types of
19 computer coding?

20 A. Yes. I have been writing computer code since the early
21 1980s. I have written code, I've read code, I've evaluated
22 code using different software and using different statistical
23 packages.

24 Q. All right. What's the computer code language in which Dr.
25 Cho wrote letter simulations?

1 A. C++.

2 Q. How are you able to understand C++?

3 A. Well, in terms of coding environments, there are a lot of
4 similarities from one code to another. And so, for example,
5 the operators are often very similar or identical from one to
6 another. And if I don't know something, I can look it up.

7 So an example that wasn't C++, I had a matter involving a
8 programming code called Ruby. And no one on my staff was
9 familiar with Ruby. I wasn't familiar with it. They weren't
10 familiar with it. And we have hundreds of programs. So we
11 figured it out. I work through it and they work through it,
12 and because there are manuals online -- or nowadays mostly
13 online, where you can look up some text if you don't understand
14 it.

15 Q. All right. Are you giving any testimony on political
16 science matters today?

17 A. No.

18 Q. Did you provide any simulated maps yourself?

19 A. No.

20 Q. All right. How does your professional work assist you in
21 your assessment of Dr. Cho's maps?

22 A. Well, again, my familiarity and my experience at looking at
23 underlying assumptions and looking at underlying data.

24 MR. STRACH: All right. Defendants now offer Dr.
25 Thornton as an expert witness in the field of economic and

1 applied statistical analysis.

2 MR. SUBHEDAR: Your Honor, we would just renew and
3 preserve our objection as stated in the *Daubert* motion.

4 JUDGE BLACK: They're preserved.

5 MR. SUBHEDAR: Thank you.

6 JUDGE BLACK: You may proceed. She's -- have you
7 offered her as an expert?

8 MR. STRACH: Yes.

9 JUDGE BLACK: All right. She's conditionally
10 certified as an expert subject to the *Daubert* motions. That
11 basically means congratulations.

12 MR. STRACH: Thank you, Your Honor.

13 THE WITNESS: I think.

14 Q. Dr. Thornton, just high level at this point in your
15 testimony, can you summarize your conclusions related to your
16 analysis of Dr. Cho's reports?

17 A. Sure. So going back to the underlying data upon which Dr.
18 Cho relies, she is combining the outcomes, in other words, the
19 Democratic and Republican vote share for elections from 2008
20 and 2010 that were statewide elections. She combines them
21 together and comes up with, then, the Democratic vote share
22 that she's then using in her simulated maps.

23 When you combine that 2008 and 2010, those statewide
24 elections, they average 49 percent -- 49 percent Democratic
25 share. So what that means is, as a consequence, she's going to

1 estimate maps that are going to have that as the foundation.

2 So you're going to have this convergence or this moving towards
3 49 percent.

4 Q. All right. Could you explain any opinions you have
5 regarding vote share and the number of seats won.

6 A. In terms of the data, she -- because she's using the -- let
7 me step back a minute.

8 Just say the question again.

9 Q. Sure.

10 A. I don't know I heard it correctly.

11 Q. Sure. Could you explain any opinions you have regarding
12 vote share versus number of seats won.

13 A. Yes.

14 So I compared the Republican vote share that Dr. Cho
15 provided for 2012, 2014 and 2016, and I compared that to the
16 number of Republican seats in each of those years. In that
17 context, as I described before, I used the binomial
18 distribution because I'm using that Republican vote share as a
19 proxy.

20 Q. All right. And we'll talk in more detail about that
21 particular conclusion. And do you -- can you give a high-level
22 summary of any opinions you have about the composition of the
23 congressional delegation in 2012 compared to the delegation in
24 2010.

25 A. Again, there I looked at the Republican composition of the

1 seats in 2010, which was 72 percent, and I compared that to the
2 Republican composition of the seats in 2012 to determine if,
3 statistically speaking, there was a difference.

4 Q. All right. Thank you. And have you made any observations
5 regarding the reelection of incumbents in 2012, 2014 and 2016?

6 A. Yes. In 2012, all but three of the individuals elected
7 were incumbents. In 2014, all of the individuals elected were
8 incumbents. And in 2016, I believe all but one was an
9 incumbent.

10 Q. All right. And will you be giving any opinions regarding
11 Dr. Niven's tests regarding split census tracts?

12 A. Yes. I reviewed Dr. Niven's statistical test that he
13 produced and I attempted to replicate it.

14 When I ran the correlation analysis that he purported to
15 have conducted, I found the opposite of what he did. I found
16 that there was no statistically significant difference in the
17 Republican vote share in census tracts with a split as compared
18 to those without a split.

19 Q. All right. Did you prepare a report for this case?

20 A. Yes.

21 MR. STRACH: All right. Could we display Defendants'
22 Exhibit 8. And, Your Honor, if I may, I'll hand a hard copy to
23 the witness and the Court.

24 JUDGE BLACK: Yes. Thank you.

25 Q. Dr. Thornton, you're holding Defendants' Exhibit 8. Is

1 this the report that you submitted in this case?

2 A. Yes.

3 Q. And at the very end of the report there is a CV attached,
4 is there not?

5 A. Yes.

6 Q. Is that CV accurate?

7 A. I believe so.

8 MR. STRACH: All right. Your Honor, defendants move
9 the admission of Defendants' Exhibit 8.

10 JUDGE BLACK: Any objection?

11 MR. SUBHEDAR: No objection, Your Honor.

12 JUDGE BLACK: It's admitted.

13 (Defendants' Exhibit 8 was admitted.)

14 Q. Dr. Thornton, Dr. Cho, in addition to her initial report,
15 also prepared a rebuttal report and supplemental report. Have
16 you reviewed all of the reports of Dr. Cho?

17 A. I believe I have.

18 Q. Did you change any of your opinions based on your review of
19 her reports?

20 A. No.

21 Q. All right. To your knowledge, did Dr. Cho provide the
22 estimated Democratic vote share for each of the 3 million
23 simulations for each of the 17 plaintiffs in her initial
24 report?

25 A. Yes, she did.

1 Q. All right. Did she provide this information in her
2 December supplemental report?

3 A. No, she did not.

4 Q. What, if any, is the impact of Dr. Cho's failure to provide
5 that information as relates to your analysis?

6 A. It makes it very difficult for me or for anybody else to
7 evaluate those findings.

8 Q. And why is that?

9 A. Well, the -- what she provided for 2008, when she applied
10 2008 and '10 to the 2012 and '16 elections, when she used those
11 simulations, she provided each of the details for each of the
12 17 plaintiffs from each of the simulations. So I can see the
13 range of values, the frequency of values for each of those
14 plaintiffs. But, in addition, there are other columns of data
15 that tell me, for example, how many county splits came out of
16 each of those maps. And so for the supplemental report, she
17 did not provide that information.

18 Q. All right. Well, let's discuss Dr. Cho's reports in a
19 little bit more detail at this point.

20 Generally, what algorithm did Dr. Cho use for her
21 simulations?

22 A. She used the Markhov chain Monte Carlo simulation, which
23 she modified, and she refers to it as the evolutionary Markhov
24 chain Monte Carlo simulation, which is a mouthful.

25 Q. Well, what experience, if any, do you have with the MCMC,

1 I'll call it, algorithm?

2 A. Well, the Markhov chain is based on Bayesian theorem, which
3 I'm quite familiar with, and then I have also run Monte Carlo
4 simulations in the past.

5 Q. All right. And do you have an understanding of the
6 evolutionary component to Dr. Cho's algorithm?

7 A. Yes.

8 Q. Well, is there a way you can explain it to the Court in
9 terms that she's used?

10 A. I will attempt to.

11 So what she is doing is, she uses three strategies to draw,
12 I believe, a thousand initial maps. And that's based on taking
13 a look to see what, I believe, she's done. So she has three
14 strategies. So, for example, one strategy is she starts off
15 with a map that takes points along the perimeter of Ohio, and
16 then it creates a map. So she has a thousand initial maps.

17 So then the evolutionary component is she randomly draws
18 two maps. And then she -- and genetically it's thought to be
19 pull two parents. And then you combine the two parents and you
20 create a new map, which is a child map or an offspring. So
21 then she needs to say, "Well, am I going to keep it or not?"

22 Keep in mind that she has a number of constraints. She's
23 weighting per population and compactness and the BVAP. She has
24 a weight for city splits, a weight for county splits, and then
25 there are also the constraints of limiting to, at most, 23

1 county splits, the 45 percent BVAP. So she has these number of
2 constraints.

3 And so then it's a question of, well, are you accepting the
4 child or not? Suppose you accept the child. You accept the
5 child, you keep one of the parents, you discard one of the
6 parents, and so you put the child back in, and the parent --
7 one of the parents back in. So you still have a thousand maps.
8 And it keeps going through the process.

9 The way in which it moves is using those weights that she
10 defined. So she gives, for example, population a 60 percent
11 weight; and I believe BVAP, as I recall, .05 weight. So she
12 gives different weights, which is going to then drive the EMCMC
13 process.

14 Q. All right. Do you know if Dr. Cho has published a
15 peer-reviewed publication that uses this exact approach?

16 A. I don't know if one would deem it a peer-reviewed article
17 or not. She prepared a three-page extended abstract for a
18 conference describing this approach, and there was a poster for
19 the conference as well, which, actually, had more information.
20 And that was for a conference after she and I both filed our
21 reports.

22 Q. All right. Did you happen to remember the month of that
23 conference?

24 A. November.

25 Q. Of which year?

1 A. 2018.

2 Q. All right. And was there any information, from your
3 perspective, missing from the extended abstract?

4 A. Yes. The extended abstract doesn't describe the parameters
5 that she used. The extended abstract doesn't describe the
6 strategies that she used.

7 In her prior articles, as I recall, they describe, at most,
8 two strategies, and, yet, she testified at her deposition that
9 here she used three strategies.

10 Q. And information about the third is not in the abstract?

11 A. No.

12 MR. STRACH: Okay. Your Honor, I'm at a reasonable
13 stopping point, if it pleases the Court.

14 JUDGE BLACK: You beat me to it. It pleases the
15 Court. The Court enjoys a timely lunch.

16 We're going to break for an hour and ten minutes, come back
17 at 1:05. Enjoy your break.

18 During the break, please do not discuss your testimony.
19 That's understood; correct?

20 THE WITNESS: Yes.

21 JUDGE BLACK: Very well. Break until 1:05.

22 COURTROOM DEPUTY: All rise. This Court is in recess
23 until 1:05.

24 (Witness temporarily excused.)

25 (At 11:57 AM, a luncheon recess was taken.)

AFTERNOON SESSION

(Janet R. Thornton resumes the witness stand.)

(In open court at 1:05 PM.)

JUDGE BLACK: Thank you. Please be seated. We're back in the courtroom. It's 1:05. Ready to proceed.

Is there anything that requires the Court's attention before we continue the examination of the witness?

MR. FRAM: Yes, Your Honor, one small point. It relates to comment from opposing counsel about how time might be calculated. We spent some time over the lunch break looking at what would happen if we kept tacking on extra days over the weekend for each deadline, and since there are four different events, it could come up to -- extend the schedule up to eight days, and we would oppose that for reasons I stated before. Counsel had mentioned that if his date fell on the weekend, it should tack on to the next Monday.

JUDGE BLACK: We intend to give you a specific date, December 25th, on each of the requirements, after we're clear when the case is going to end. And I remember the practice of law. It's not all that different for me now. If something falls on a weekend, it falls on a weekend and would be due on a weekend is where we are headed.

So, with that, are we prepared to proceed, continue the examination?

MR. STRACH: Yes, Your Honor.

1 JUDGE BLACK: Plaintiff ready?

2 MR. SUBHEDAR: Yes, Your Honor.

3 JUDGE BLACK: Intervenors as well?

4 MS. PROUTY: Yes, Your Honor.

5 JUDGE BLACK: You all healthy back there?

6 MS. PROUTY: So far so good, Your Honor.

7 JUDGE BLACK: Very well. You remain under oath, Madam
8 Witness. You understand?

9 THE WITNESS: Yes, Your Honor.

10 JUDGE BLACK: Very well. You may continue your
11 examination.

12 MR. STRACH: Thank you, Your Honor.

13 JANET R. THORNTON

14 a witness herein, having been previously duly sworn, testified
15 further as follows:

16 DIRECT EXAMINATION (Continued)

17 BY MR. STRACH:

18 Q. Dr. Thornton, it's been brought to my attention that the
19 copy of Defendants' 8, your report, there's a copying error,
20 and it does not contain your signature page. Can you confirm
21 for me that you did, in fact, sign your report?

22 A. I did, indeed.

23 Q. And Defendants' 8, does this appear to be the report that
24 you signed?

25 A. Yes.

1 Q. Okay. All right. Before the break, we were discussing the
2 information that Dr. Cho had included or not included in the
3 extended abstract. Do you recall that testimony?

4 A. Yes.

5 Q. And what, if any, information was provided regarding the
6 number of precincts/units and the number of districts to be
7 divided in generating the maps?

8 A. With respect to her extended abstract, her example uses 25
9 precinct, or 25 units, divided into three districts.

10 Q. All right. And explain to the Court how that -- how that
11 works as a practical matter.

12 A. So, using her process, her EMC MC process, it takes those 25
13 units -- we can think about them as precincts in three --
14 dividing them into three districts, and using her process, she
15 generated, according to her abstract, 141 billion maps.

16 Q. All right. And so 141 billion maps --

17 And that was for what, effectively, would be 25 precincts
18 and only three districts; correct?

19 A. That's correct.

20 Q. And do you know how many precincts were in Ohio in 2008?

21 A. Approximately, I believe, 11,000.

22 Q. And do you know how many there were in 2012?

23 A. I believe approximately 9,000.

24 Q. And do you know how many congressional districts there are?

25 A. Currently, there are 16.

1 Q. All right. So if you can have over a hundred billion maps
2 enacted with 25 precincts, three districts, how many possible
3 outcomes could you derive from 9,000 precincts across 16
4 districts?

5 A. A number I cannot imagine. It's huge. It would be
6 probably ten to the power of, I believe, 10,000. And so to put
7 that into perspective, the universe has approximately ten to
8 the power of 80 molecules, so it's a lot of maps.

9 Q. All right. Let's talk about the weights used by Dr. Cho.
10 What is your understanding of the weights used by Dr. Cho?

11 A. So the weights that she has, she weights population,
12 weights city breaks, weights county breaks, weights
13 compactness, weights the BVAP. And these weights are used in
14 what's referred to as a fitness function, and that fitness
15 function is used to drive her process. So it will drive the
16 set of maps through the process. So if you change the weights,
17 you're changing the process.

18 Q. All right. So, in her analysis, the weights can be
19 changed; is that right?

20 A. Certainly.

21 Q. All right.

22 MR. SUBHEDAR: Your Honor, can I just state an
23 objection that this is beyond the scope of what she disclosed
24 in her reports or what was in her deposition.

25 JUDGE BLACK: Very well. That objection is noted.

1 Q. Do you know what can happen to the political lean of the
2 maps if the weights are changed?

3 A. If you change the weights, you change the set of maps.

4 Q. Okay. Can you explain, based on what Dr. Cho provided in
5 this case, how an expert could replicate her work in this case?

6 A. Well, first, I believe that Dr. Cho testified on Friday
7 that, when you run her program or her sets of files, you get a
8 different set of maps. So, by definition, one couldn't
9 replicate it based on that testimony.

10 But beyond that, Dr. Cho provided her files as one combined
11 PDF, and one cannot run a PDF. But, moreover, we do not know
12 how she compiled each of the files, how she linked the files,
13 how she included all of her parameters, because she did not
14 provide the information. During her deposition, she said she
15 entered it all into a command line. So all of the compilation,
16 the linkages, the execution, the parameter information, she
17 said she entered it all in a command line. So I'm not an
18 Instagram person, but if you are, apparently, with Instagram,
19 you enter it and it goes, "poof," away. So you would enter in
20 the command line, you enter in all this information, it will
21 start doing all this process, and then there's not a record of
22 what was entered.

23 Q. All right. So let's break that down a little bit. What
24 exactly is a command line?

25 A. So a command line is there's a command prompt. And this is

1 true on, you know, any computer system where you're running
2 these analyses. I use a Unix system and there's a command
3 line. So the command line, I enter, you know, do this, and it
4 will do that. It's not maintaining what I wrote in the
5 computer, but it will -- in her context, as she's testified,
6 she did it all at the command line, which would mean
7 compilation linking these files executing and putting in the
8 parameter values.

9 Q. All right. And what is your general practice with regard
10 to how to handle the fact that the command line goes "poof"
11 after you run the analysis?

12 A. If I have -- if I'm trying to do several things, I'm going
13 to make a file that records what I'm doing so I have a record
14 of what I'm doing. And if someone asks, I have a record of
15 what I'm doing.

16 And then if I make a mistake -- suppose I have an incorrect
17 syntax, which happens all the times. If I have incorrect
18 syntax, then I can correct the syntax. I don't have to go back
19 and enter that line, I can just execute that file, and it will
20 run everything for me.

21 Q. All right. Did Dr. Cho, to your understanding, produce the
22 command lines that were used in this analysis in any format?

23 A. No.

24 Q. All right. Do you know, with any certainty, the parameter
25 values Dr. Cho actually used to generate the 3 million maps?

1 A. No. She listed some of the -- she listed some parameters
2 in a letter, but I have no way of knowing one way or another if
3 those were the parameters used.

4 Q. Do you know if those parameters were, in fact, entered at
5 the command line.

6 A. No way of knowing.

7 Q. Did Dr. Cho produce as part of the backup to any of her
8 reports the actual maps produced by the simulations?

9 A. No.

10 Q. All right. So are you able to determine into how many
11 districts her simulations divided, say, Franklin County, or how
12 it was divided?

13 A. No.

14 Q. Are you able to determine how many districts her
15 stimulations divided, say, Cuyahoga County?

16 A. No.

17 Q. Are there any other parameters that you contend Dr. Cho
18 failed to provide?

19 A. Well, there were files that are read into her code that I
20 don't know what those actual files are, because she did not
21 produce them. So that would be one piece to the puzzle --

22 Q. Okay.

23 A. -- that's missing.

24 Q. All right. Now, let's sort of focus our attention, change
25 our attention to Dr. Cho's actual simulations. Okay? How many

1 simulations did Dr. Cho run, to your knowledge?

2 A. It's not clear. In her deposition she testified that she
3 ran a billion simulations, but I believe, in reading her
4 testimony from last week, unless I misread it, I believe she
5 said she ran 300 billion.

6 Q. All right. And, of course, Dr. Cho didn't provide any of
7 her maps; correct?

8 A. That's correct.

9 Q. In her initial report, what did Dr. Cho use to measure
10 Democratic vote share in the, let's say -- call it the 1
11 billion simulations?

12 A. So to be clear, from however many simulations she produced,
13 she then uses, for her analyses, 3 million of the simulated
14 maps. So from that, to arrive at those, she uses the statewide
15 outcomes from elections in 2008 and 2010. She combines them
16 together.

17 Q. All right. And so in her initial report, Dr. Cho used the
18 2008 and 2010 elections, combined, as you describe, rather than
19 the elections themselves; correct?

20 A. That's correct.

21 Q. All right.

22 MR. STRACH: If we could display D8. We've got it
23 displayed up here. Go to 17 and Figure 1.

24 Q. Dr. Thornton, is this a figure that you prepared?

25 A. Yes, it is.

1 Q. What's it show, generally?

2 A. So it looks at the statewide elections that she used and it
3 looks at what the Democratic vote share is for each of the
4 elections combined for each of the election years from 2008
5 through 2016, also including -- pardon me. Just 2008 through
6 2016.

7 Q. Okay. If Dr. Cho had used the 2008 and 2010 statewide
8 elections that you said averaged 49 percent Democratic vote
9 share to simulate maps for the 2010 congressional election,
10 what would she likely have found?

11 A. She is likely to have found a result similar to what she
12 did here when she was using, again, the 2008 and 2010. She was
13 likely to come up with about 50-50, about nine -- eight or nine
14 Republican seats.

15 Q. And, again, why is that?

16 A. Because she's using data that averaged 49 percent. And so
17 in her simulation she's moving around data that averaged that
18 percentage, so she's going to be moving the districts towards
19 the middle.

20 Q. To your knowledge, did Dr. Cho ever use the statewide
21 election Democratic vote share from the 2016 election in her
22 simulations?

23 A. No, she did not.

24 Q. What was that vote share in 2016, per Figure 1?

25 A. Forty-two percent.

1 Q. All right. Do you know what the impact would have been if
2 she had used the 2016 election results instead of combining '08
3 and 2010?

4 A. You would have been moving it away from 49 percent to above
5 50 percent in terms of the Republican vote share. So you would
6 have been moving those districts -- you would have been moving
7 around data that would have leaned higher to a Republican vote
8 share.

9 Q. Okay. Dr. Cho testified that she checked to determine what
10 county the 45 percent BVAP district was in. Do you know what
11 I'm referring to when I refer to that district?

12 A. Yes.

13 Q. What did she produce to confirm that that's what she did?

14 A. There's nothing that I can find in the data runs that she
15 provided or the output that she provided for the 3 million
16 simulations. There is one field that she described during her
17 deposition that was the district related to the BVAP. When I
18 look at that field, there are about nine -- there are nine
19 possible districts that she has in that column. I don't know
20 what that means from the standpoint of her -- the simulations,
21 because I don't know where those nine districts would be, but
22 it's over half of the districts that she has in that column of
23 data.

24 Q. Okay. Let's turn to Dr. Cho's initial report for a minute.
25 That's Plaintiffs' Exhibit 87.

1 MR. STRACH: If we could bring that up. Plaintiffs'
2 87. And if we could look at page 31. Page 31, and Table 2.
3 And if you could highlight that table.

4 Q. Dr. Thornton, what is your understanding of what Dr. Cho is
5 reporting in Table 2?

6 A. So at Table 2, Dr. Cho is reporting the Republican vote
7 share for each of the elections, 2012, 2014 and 2016, and then
8 as compared to the Republican seat proportion, 75 percent in
9 each of those years.

10 Q. All right. Did Dr. Cho, to your knowledge, prepare any
11 sort of a statistical test in this comparison?

12 A. No, she did not.

13 Q. Did she state anything about that fact?

14 A. Well, what she states is that while we do not have
15 proportional representation, big discrepancies between the two
16 percentages could perhaps raise concern. I believe she states
17 that in the paragraph just above the table.

18 Q. All right. So did you prepare a statistical test to
19 compare these to determine, statistically, if they are, in
20 fact, large discrepancies?

21 A. Yes, I did.

22 Q. All right.

23 MR. STRACH: Let's display, again, Defendants' Exhibit
24 8, page 20. And if you'll highlight Table 3.

25 Q. Dr. Thornton, could you explain to the Court, generally,

1 what Table 3 is.

2 A. Yes. Table 3, I'm taking the same information that Dr. Cho
3 provided regarding the Republican vote share and then the
4 number of seats and then the number of Republican seats.

5 So, as I described earlier, when we do not have a known
6 benchmark, we can use the binomial distribution to take that
7 Republican vote share and use it to predict the number of
8 Republican seats. And then, as here, if we take, for example,
9 2016, the Republican vote share was 58 percent. We can use
10 that to say, okay, if it was -- using that percentage, take
11 58.2 percent of 16 seats, and then that gives us the expected
12 or the predicted number of Republican seats, which is 9.31.

13 And so what we're asking, statistically, is how different
14 is 9.31 expected or predicted seats from the number of actual
15 Republican seats? So we have a difference of 2.69 Republican
16 seats between the actual and expected or the actual and
17 predicted. We then ask to translate that difference in the
18 number of Republican seats into the number of standard
19 deviations.

20 Q. And can you explain to the Court the concept of standard
21 deviations and what that means in this context?

22 A. Okay. The standard that is typically used is two standard
23 deviations, so outcomes that are outside of positive two
24 standard deviations or outside of negative two standard
25 deviations are deemed statistically significant. That means

1 that those outcomes that are outside of positive two or
2 negative two have a probability of occurring by chance of five
3 percent or less, meaning, they're not likely to have occurred
4 by chance alone. Outcomes that are within two standard
5 deviations, meaning between negative two and two, are deemed
6 not statistically significant, meaning they have a probability
7 or a likelihood of occurring by chance that's greater than five
8 percent.

9 Q. And so, based on that, what do you conclude about the --
10 those numbers for 2016?

11 A. For each of the years, 2016, 2014 and 2012, the difference
12 between the actual and predicted number of Republican seats
13 using the Republican vote share are not statistically
14 significant.

15 Q. All right. Did you also --

16 JUDGE BLACK: May I ask a question?

17 THE WITNESS: Sure.

18 JUDGE BLACK: I mean, I'm not a statistician, but the
19 difference between 12 seats and nine seats or eight seats seems
20 to me to be significant with a universe of 16.

21 THE WITNESS: One may view it as being, perhaps,
22 practically significant. I'm not one to judge that. But from
23 a statistical basis, which is what I do, it's not statistically
24 significant, meaning, those outcomes could have occurred by
25 chance alone.

1 If we had a bigger difference and -- at one time I had
2 calculated it. So, you know, how many seats, positive or
3 negative would -- could we have significance? And, most
4 certainly, yes. There are outcomes that are more extreme than
5 this if one is considering them to be different, and you would
6 have a statistically significant outcome. Here, given these
7 vote proportions and the number of seats, statistically
8 speaking, they're within the realm of chance.

9 JUDGE BLACK: Thank you.

10 THE WITNESS: You're welcome.

11 MR. STRACH: Thank you, Your Honor.

12 Q. Did you also compare the Republican congressional seat
13 composition in 2010 to the congressional seat composition in
14 2012?

15 A. I did.

16 Q. All right. Let's look at the same exhibit, page 21, Table
17 4. And describe for the Court, generally, what Table 4 is
18 showing.

19 A. So Table 4 is showing, again, our 16 seats, and, in 2012,
20 we have the 12 Republican seats. So here, rather than looking
21 at vote shares, I'm using as our proxy what was the Republican
22 seat composition in 2010 prior to the change in the map. And
23 at that point in time, based on the 18 seats, there were -- 72
24 percent were held by Republican candidates.

25 So if I use the 72 percent as a benchmark, then if I take

1 72 percent of 16, I'm going to predict 11.6. The difference
2 between 11.6 and the 12 is .4. It's within our two standard
3 deviations. So the number of standard deviations is .25. It's
4 within the range of negative two and two. So the probability
5 of occurring by chance is greater than five percent, and it's
6 not statistically significant.

7 Q. All right. And did you say that earlier you also looked
8 at, statistically speaking, the effect of incumbents, did you
9 not?

10 A. I looked at -- I counted whether or not the individuals who
11 were elected in 2012, 2014 and 2016, year to year, starting
12 with comparing '12 to '10, whether or not they were incumbents.

13 Q. All right. So for 2012, what was the incumbents number?

14 A. In 2012, all but three of the 16 seats were held by
15 incumbents.

16 Q. And what about 2014?

17 A. All were held by incumbents.

18 Q. And 2016?

19 A. All but one was held by an incumbent.

20 Q. All right. Did Dr. Cho's simulations adjust for
21 incumbents, to your knowledge.

22 A. To my knowledge, no, they did not.

23 Q. Did her failure to do that affect the statistical analysis?
24 And if so, how?

25 A. Well, if you change the weights -- so, in other words, if

1 you change the weight to adjust for incumbency, then you're
2 going to be changing the fitness function. By changing the
3 fitness function, you will change the maps.

4 Q. All right. Let me direct your attention now to Dr. Niven's
5 report. You did some analysis of his report. You were asked
6 to review the statistical test that Dr. Niven wrote about;
7 correct?

8 A. Yes.

9 Q. All right. Explain to the Court what you found regarding
10 that.

11 A. In Dr. Niven's report he prepared an analysis that was --
12 contained enough -- described mostly in a footnote. And it
13 stated that he ran a Pearson correlation, as I recall, that --
14 between the Republican vote share and the -- whether or not a
15 census tract was split or not. And so I took his data file and
16 I tested to see whether or not that outcome was accurate. And
17 so I took his data file, ran the analysis, and I determined
18 that there is no statistically significant difference in the
19 proportion Republican and whether or not a census tract is
20 split. I looked at it from the prior plan and I looked at
21 it -- the current plan, and, in either case, using his data, it
22 was not statistically significant.

23 And I might perhaps describe what the correlation
24 coefficient is, and that is the correlation coefficient can
25 range from negative one to one. Negative one means things

1 are -- two factors are perfectly, negatively correlated. Well,
2 what does that mean?

3 If we had a correlation coefficient of negative one, it
4 would mean that as the percentage Republican increased, that
5 the number of splits went down. Perfectly positive would mean
6 as the percentage Republican increased, the number of splits
7 increased. And a zero means there's zero correlation between
8 the two factors.

9 So I ran the correlation analysis here, and I determined
10 that, for the prior plan, the correlation coefficient was
11 negative .03, meaning really close to zero. And for the
12 current plan, it was negative .02, again, very close to zero.
13 And those correlation coefficients, those outcomes, are not
14 statistically significant. That means they have a probability
15 of occurring by chance that's greater than five percent.

16 Q. All right. Did -- to your knowledge, did Dr. Niven provide
17 the correlation coefficient for his analysis?

18 A. No.

19 Q. And the code that you used to run your analysis of his
20 analysis, did you provide that to the plaintiffs?

21 A. Yes, I did.

22 Q. And, to your knowledge, has Dr. Niven disputed the code
23 that you ran to analyze his analysis?

24 A. I haven't seen that.

25 MR. STRACH: All right. Thank you, Your Honor.

1 That's all we have for now.

2 JUDGE BLACK: Very well.

3 MR. SUBHEDAR: May I proceed, Your Honor?

4 JUDGE BLACK: Yes. The scope of cross is what was
5 covered in direct.

6 MR. SUBHEDAR: Yes. Understood. May I ask one
7 question on that point, which is, the expert reports are --
8 have been admitted into evidence by the parties so --

9 JUDGE BLACK: I suppose that's a -- yes.

10 MR. STRACH: Yes, Your Honor, we wouldn't have any
11 problem with crossing on material in the report as well as what
12 we covered on direct.

13 JUDGE BLACK: I was going to say that.

14 MR. SUBHEDAR: Thank you, Your Honor.

15 CROSS-EXAMINATION

16 BY MR. SUBHEDAR:

17 Q. Good afternoon, Dr. Thornton.

18 A. Good afternoon.

19 Q. So let me start with a few questions about some of your
20 qualifications, which is where your direct examination started
21 as well.

22 So you hold a bachelor's degree in economics as well as a
23 master's and a Ph.D.; correct?

24 A. Yes.

25 Q. Okay. And you have just a bachelor's in political science;

1 right?

2 A. I have a bachelor's degree, yes.

3 Q. Okay. And you don't hold any degrees in statistics;
4 correct?

5 A. That's correct.

6 Q. And you don't hold any degrees in mathematics; is that
7 right?

8 A. That's correct.

9 Q. Okay. Now, in your CV, you have listed some areas of
10 teaching responsibilities; is that correct?

11 A. Yes.

12 Q. Okay.

13 MR. SUBHEDAR: Can we pull up Dr. Thornton's CV, which
14 is, I believe it's attached to Exhibit D8 at Appendix A.

15 Q. And if we focus in on the Academic Experience section.

16 Now, this is the section of your CV in which you've listed jobs
17 that you have held, roles you have held with teaching
18 responsibilities; correct?

19 A. Yes.

20 Q. Now, with regard to the Florida State University heading,
21 you have four positions under there; right?

22 A. Yes.

23 Q. And can I just ask you, how are the parentheses to be
24 interpreted? So the first one, say, "2010," does that mean the
25 entire calendar year of 2010 or a part of 2010?

1 A. I don't recall. It's 2010.

2 Q. Okay. And just maybe you don't recall on this one either,
3 but just so that I ask it, the second one says "2000-2001." Is
4 that an academic year from the fall of 2000, spring of 2001, or
5 is it two calendar years; do you recall?

6 A. I don't have any idea.

7 Q. Okay. So with regard to the positions that you have listed
8 here under the Florida State University heading, the bottom two
9 were in the school of economics; right?

10 A. That's correct.

11 Q. And the top two were offered through the school of -- which
12 school were those three? I'm sorry, the business school;
13 correct?

14 A. That's correct.

15 Q. Okay. Now, the second heading you have here is Georgia
16 Southwestern College, and you have a part-time instructor
17 position there. In that position you taught through the
18 business school and the mathematics department; correct?

19 A. That's correct.

20 Q. And in the mathematics department, I believe you testified
21 at deposition that you offered -- taught some classes in
22 algebra and maybe one other matter that you couldn't remember;
23 is that right?

24 A. That's what I recall.

25 Q. So looking at this section of your -- your teaching

1 experience in your CV, I'm correct, am I not, that your last
2 teaching responsibility position was approximately eight or
3 nine years ago?

4 A. Probably, yes.

5 Q. Okay. Let's look at your employment history outside of
6 academia. So if we can go to the second page of the CV. And
7 look under the heading Previous Positions.

8 So am I correct that between at least 1986 and 2004, you
9 held job titles that were primarily that of an economist; is
10 that right?

11 A. I would -- the job title was economist in those jobs. I
12 served as an economist and applied statistician, and I also did
13 a lot of computer programming.

14 Q. Okay. Let's take a look at the Web site of your current
15 employer, Berkeley Research Group.

16 MR. SUBHEDAR: If we could pull that up.

17 Q. Do you recognize this page or this material at least?

18 A. Somewhat.

19 Q. Okay. I'll represent to you that this is a printout taken
20 from the Web site of the Berkeley Research Group. It was
21 printed yesterday, I believe, March 10th, and it's the section
22 of the Web site that is your biography. Does that all seem
23 accurate, based on what you're seeing?

24 A. I believe that's probably what was posted there.

25 Q. Okay. So I just wanted to focus in on the very first

1 sentence of your biography, and this is on the current Web site
2 of your employer. You are described here as "an economist who
3 specializes in the analysis of employment, insurance, and
4 credit decisions"; right?

5 A. That's what it says.

6 Q. Okay.

7 MR. SUBHEDAR: Let's go back to the CV, and,
8 specifically, page 3.

9 Q. Okay. And if you could focus on the portion of the top
10 that's under the heading Articles. Here you have listed a
11 number of articles that you have authored or coauthored;
12 correct?

13 A. Yes.

14 Q. Now, at your deposition I asked you if you could identify
15 which of these articles were peer reviewed. And what you
16 identified as articles or publications that you believe are
17 clearly peer reviewed were just some of these; right? So you
18 identified the fourth one, which is "Recent Developments in the
19 Analysis of Employment Practices"; correct?

20 A. I believe so.

21 Q. And then you identified the sixth one, which is the "Cohort
22 Analysis and the Determination of Economic Damages"; right?

23 A. Yes.

24 Q. And then the seventh one, which is "Using New Labor Force
25 Participation"?

1 A. Yes.

2 Q. And then the eighth one, which is your Ph.D. dissertation;
3 right?

4 A. Yes.

5 Q. Okay. And on the remaining articles, you either testified
6 that they're not peer reviewed or that you couldn't recall if
7 they're peer reviewed; right?

8 A. That's what I recall.

9 Q. Okay. So focusing on the four that you believe clearly are
10 peer reviewed, I just want to confirm. So the last one, as we
11 said, is your Ph.D. dissertation. That was written in pursuit
12 of a Ph.D. in economics; right?

13 A. Yes.

14 Q. Okay. And the first one is a chapter in a book, and the
15 book is titled *Developments In Litigation Economics*; is that
16 right?

17 A. Yes.

18 Q. And the book is one of a series, and the series is entitled
19 *Contemporary Studies in Economic and Financial Analysis*; right?

20 A. I believe so, yes.

21 Q. Okay. And then the next one that I believe we've
22 highlighted, the "Cohort Analysis," that was published in the
23 *Journal of Forensic Economics*; right?

24 A. Yes.

25 Q. And then, finally, the last one -- I'm sorry, the next one,

1 which is "Using New Labor Force Participation Rates," that one
2 was in the *Journal of Legal Economics*; right?

3 A. Yes.

4 Q. Okay. Now, the first item on this entire list of
5 publications was published in 2015; right?

6 A. Yes.

7 Q. And other than that one, the -- all of the articles that
8 remain on this list were published, roughly, eight to nine
9 years ago; is that right?

10 A. Yes.

11 Q. Okay. Now, you don't hold any -- I think we already
12 established, but just to confirm, you don't hold any advanced
13 degrees in political science; right?

14 A. That's correct.

15 Q. Okay. Now, you have never taught a class on the topic of
16 redistricting; right?

17 A. That's correct.

18 Q. And you have never taught a class on the topic of voting
19 issues?

20 A. That's correct.

21 Q. All right. You have not taken any course work in
22 redistricting; right?

23 A. I have no idea or recall everything I took when I was in
24 undergraduate school, so not to my recollection, but I may
25 have.

1 Q. Well, let's just take a look at your deposition testimony.

2 You recall that you were deposed in this case; correct?

3 A. Yes.

4 Q. And it was back in December and I took your deposition?

5 A. Uh-huh.

6 Q. And you were under oath and you provided answers in
7 response to my question?

8 A. Yeah.

9 Q. Okay. If we look at your deposition at page ten, line 13.
10 So there I asked you: "Have you taken any course work in
11 redistricting"?

12 And your answer was: "No."

13 At your deposition in the case you were also unable to
14 recall taking any classes on elections, either during your
15 master's degree program or your Ph.D. program; right?

16 A. Well, I'm reading the testimony below there, and you asked
17 me "How about course work in elections?" And I said, "I cannot
18 recall everything that I studied in undergraduate school."

19 Q. Okay. That was a slightly different issue than my
20 question.

21 My question was, you cannot recall taking any courses on
22 elections in your master's degree program or in your Ph.D.
23 program?

24 A. I apologize. I misheard you.

25 Q. Well, so the answer to my question is that you could not

1 recall taking any classes in your master's program or your
2 Ph.D. program; right?

3 A. That's correct.

4 Q. Now let's turn back to your CV, Exhibit D8, Appendix A, on
5 page three.

6 Now, I asked you at deposition whether any of these
7 articles that you listed here relate to voting; correct?

8 A. If you did, you did. I'm sure you did.

9 Q. Okay. And you responded to that question at deposition by
10 pointing to only one of the items on this list as even possibly
11 relating to voting, and that was the fourth item, the "Recent
12 Developments in the Analysis of Employment Practices"; is that
13 right?

14 A. I may have said that, yes.

15 Q. Do you know, sitting here today, whether that article
16 relates to voting issues?

17 A. I recall what I said at deposition was, I cannot recall all
18 of the examples that we gave, because some of the examples of
19 some of the statistical techniques we used or described did not
20 involve employment decisions. So that was, as I recall, my
21 response.

22 Q. Okay. And since your deposition, you have not gone back to
23 look at that chapter to see if it has any discussion of voting
24 or districting issues, have you?

25 A. No, I have not.

1 Q. Okay. Now, this item, as we said earlier, is a chapter in
2 a book, and it's a chapter that relates primarily to employment
3 practices; correct?

4 A. Primarily, yes.

5 Q. Okay. And the point that you made at deposition, which I
6 think you just repeated, is that in this chapter you and your
7 coauthors provided some examples, and some of those examples
8 may have been outside the context of employment, but you
9 couldn't remember. Is that a fair summary?

10 A. That's my recollection.

11 Q. Okay. Okay. I'm going to hand you a document that we had
12 marked as Plaintiffs' Exhibit IM64.

13 MR. SUBHEDAR: Your Honor, may I approach?

14 JUDGE BLACK: Yes. Thank you.

15 Q. Dr. Thornton, do you recognize the document that I've just
16 handed you?

17 A. Yes.

18 Q. And is this the book chapter that we were just discussing a
19 moment ago?

20 A. Yes.

21 Q. And are you able to tell me, looking at this chapter now,
22 whether this publication relates at all to voting issues or
23 election issues?

24 A. It doesn't appear as though it does.

25 Q. Okay. Let's return to your CV Exhibit D8, Appendix A, page

1 three. Now, toward the bottom of this page you have a heading
2 that says Presentation and Training Engagement, and it's
3 followed by a list of three things on this page, and I believe
4 the list continues on to page four, all of page four, and, I
5 think, to the top of page five, if we can scroll ahead.

6 Do you see that section?

7 A. Yes.

8 Q. Now, none of the presentations and training engagements
9 that you have listed on these pages related to issues
10 pertaining to voting; correct?

11 A. I believe you're correct.

12 Q. And none of the presentations and training engagements that
13 you have listed on these pages related to issues pertaining to
14 districting; right?

15 A. I believe that's correct.

16 Q. Okay. Let's go to page five of your CV. And you have a
17 heading here towards the top that says Seminar Presentations,
18 with a few items after that. None of the listed seminar
19 presentations related to voting issues; is that correct?

20 A. That's correct.

21 Q. And none of them related to districting issues either;
22 right?

23 A. I believe that's correct.

24 Q. Now, you have never conducted redistricting simulations by
25 generating a hypothetical sample of congressional maps; right?

1 A. That's correct.

2 Q. And at your deposition you testified that you do not know
3 if you have ever had occasion, prior to this case, to analyze
4 partisan metrics for evaluating congressional maps; right?

5 A. I believe that's correct.

6 Q. Okay. And, similarly, at your deposition, you said you do
7 not know if you have ever had occasion, again, prior to this
8 case, to analyze election results for use in evaluating
9 congressional maps; correct?

10 A. I believe that's correct.

11 Q. Okay. Now, on direct examination you mentioned that you
12 have run, I think, a Monte Carlo simulation. Is that accurate?

13 A. Yes.

14 Q. But you have never run a Markov chain Monte Carlo
15 algorithm, have you?

16 A. That's correct.

17 Q. And prior to working on this case, you had never had
18 occasion to review, evaluate or assess a Markhov chain Monte
19 Carlo algorithm; right?

20 A. That's correct.

21 Q. Now, prior to your work on this case, you had never
22 provided expert testimony relating to the drawing of voting
23 districts; right?

24 A. That's correct.

25 Q. Please turn to page three of your expert report, which is

1 Exhibit D8. And if you look at paragraph 7, the final sentence
2 of that paragraph says "No court has rejected me as an expert
3 qualified to testify in my fields."

4 Do you see that sentence?

5 A. Yes.

6 Q. Okay. Has a Court ever found you not qualified to testify
7 as an expert in any fields for which you were proffered as an
8 expert?

9 A. To the best of my knowledge, I have not -- I'm trying to
10 think about your question.

11 To the best of my knowledge, no one has precluded me to
12 testify about that which I've been asked -- I've testified
13 about. I've been allowed to testify about what I've been
14 testifying about.

15 Q. Okay.

16 A. I don't know how else to say it. The way your question was
17 worded, I -- maybe I'm not understanding you, but when I've
18 been asked to testify, I've testified.

19 Q. Okay. So just to clarify, so in this case, for example,
20 you heard your attorney earlier on direct examination offer you
21 as an expert in certain categories; right? Is that a yes?

22 A. That's correct.

23 Q. So what I'm asking is, have you ever been offered as an
24 expert in certain categories and had a Court conclude that you
25 were not qualified as an expert in some category for which you

1 were offered?

2 A. As far as I know, I don't recall that ever happening.

3 Q. Okay. Now, I think during direct examination you testified
4 that you were working on a particular case involving the
5 Democratic National Committee. Actually, it was *Democratic*
6 *National Committee versus Reagan*; is that correct?

7 A. The Arizona matter?

8 Q. Yes.

9 A. Yes.

10 Q. And it's correct, is it not, that the Court in that case
11 issued findings of fact and conclusions of law?

12 A. I believe so.

13 Q. Okay. And did the Court in that case describe your
14 expert -- one of your expert opinions in that matter as, quote,
15 "simplistic and not credible," unquote?

16 A. He may have.

17 Q. Okay. And the basis for the Court's conclusion in that
18 regard was statistical evidence that suggested that your
19 opinions were not -- were undermined by the statistical
20 evidence; is that right?

21 A. Well, I'd have to have it all in front of me.

22 MR. SUBHEDAR: Okay. Let's pull up IM72, please.

23 May I approach, Your Honor?

24 JUDGE BLACK: Yes. Thank you.

25 Q. And let me direct your attention to pages -- I'll start

1 with pages -- it's, actually, pages 11 and 12. And if you look
2 at the bottom of page 11, the paragraph there that starts with
3 "Dr. Thornton's opinion that there should have been a
4 systematic decline in the number of ballots cast in Arizona's
5 13 non-metropolitan counties during 2016 if the limits on
6 ballot collection impacted the ability of rural and minority
7 persons to vote is simplistic and not credible."

8 Correct?

9 A. That's what he wrote.

10 Q. Okay. And then the next sentence says, "The statistical
11 evidence suggests that increased turnout in rural counties for
12 the 2016 election was driven by non-minority voters, not Native
13 American and Hispanic voters"; right?

14 A. That is what he wrote.

15 Q. Okay. Let me shift gears here a minute and talk about Dr.
16 Cho's code about which you gave some testimony on direct and
17 about which you've just provided some opinions in your expert
18 report as well.

19 Now, in your expert report, Exhibit D8, at page four, one
20 of the conclusions you state is that Dr. Cho failed to provide
21 all of the underlying code sufficient to replicate her
22 findings; is that right?

23 A. That's what I wrote.

24 Q. Okay. And later in Exhibit D8, your expert report, on page
25 six you state that Dr. Cho provided a document containing

1 hundreds if not thousands of lines of code; right?

2 A. Yes.

3 Q. Now, the code that Dr. Cho provided was written in C++; is
4 that right?

5 A. It's in C and C++.

6 Q. You do not consider yourself to be an expert on C++, do
7 you?

8 A. I am not an expert in it.

9 Q. And you have never -- sorry.

10 A. Just as I would say I'm probably not an expert in any
11 programming language, even if I programmed it in 30 years.

12 Q. And you have never written a program in C++, have you?

13 A. I have not.

14 Q. In fact, you were not proficient in reading C++, unless you
15 refer to a manual; correct?

16 A. I said I can use -- if I don't understand something, I use
17 a manual for C, C++, or any other software program.

18 Q. Let's take a look at your deposition, page 41. Starting at
19 line 8 I asked the question: "Are you proficient in C++?" And
20 your answer, first answer, was: "In terms of actually writing
21 a program, I have not written a program."

22 I then asked: "How about in terms of reading and
23 interpreting it without assistance from other people?"

24 And your answer was: "If I had a manual, then -- to guide
25 me and ensure that I was understanding the syntax correctly,

1 then I could be proficient in C++."

2 Now, at your deposition I actually asked you whether you
3 have a manual that you consult for the purposes of
4 understanding C++, and you told me that you use online manuals;
5 right?

6 A. Yes, just as I do with other programming software.

7 Q. Okay. But you were unable to identify, during your
8 deposition, any online manual for C++ that you consult; right?

9 A. That's correct, just as I can't do the same for any of the
10 other ones.

11 Q. Okay. Now, you also said at deposition that you have gone
12 to certain Web sites for reference materials on C++, but you
13 were unable to identify a single such Web site by name, URL or
14 any other form of identification; correct?

15 A. That's correct. Just like the same with any others.

16 Q. And you also testified that there are certain Web sites for
17 reference materials regarding C++ that you visit -- that you
18 have visited more than once or you visit regularly; right?

19 A. Yeah.

20 Q. And you weren't able to identify those Web sites either;
21 right?

22 A. Yes.

23 Q. Now, you also testified that some of the Web sites you
24 visit have links to other reference materials such as books,
25 regarding C++; right?

1 A. That's correct.

2 Q. And you weren't able to identify those books either?

3 A. That's correct.

4 Q. Okay. Now, at the time of your deposition I asked you when
5 the last time was that you had consulted one of these online
6 reference manuals for C++. Do you remember me asking you that
7 question?

8 A. Vaguely.

9 Q. Okay. And at your deposition -- do you recall that your
10 deposition happened on a Monday, December 10th?

11 A. Yes.

12 Q. Okay. And your answer at deposition was the last time you
13 referenced one of these online materials was just over the
14 prior weekend, right, so one or two days before the deposition?

15 A. Yes.

16 Q. Okay. Now, let's bring up your CV again, Exhibit D8,
17 appendix A, and let's go now to page five.

18 Now, the second from the last heading here says Computer
19 Languages and Statistical Packages; right?

20 A. Yes.

21 Q. Okay. And among other things that you list here, you
22 identify FORTRAN, SAS and SPSS; right?

23 A. YES.

24 Q. FORTRAN is a computer programming language; correct?

25 A. Yes.

1 Q. SAS is a computer programming language?

2 A. It's more than that. It's also a massive statistical
3 software and database management system that is driven by a lot
4 of modules and code.

5 Q. Okay. Sorry. And you have not listed C++ until this
6 portion of your CV; right?

7 A. I haven't listed a lot of things there.

8 Q. Now, we talked a moment ago about Dr. Cho's code, and I
9 think you said that it was written in both C and C++. Is that
10 your opinion?

11 A. Yes.

12 Q. Okay. At the time that you wrote your expert report,
13 Exhibit D8, you did not know the difference between C and C++
14 programming languages; is that accurate?

15 A. Well, I think that's a mischaracterization. I believe you
16 asked me during my deposition if I knew the difference, and I
17 said I couldn't remember, but I knew at one time. That's not
18 the same as when I wrote my report.

19 Q. Okay. So sitting -- at the time of your deposition, at
20 least, you could not articulate the difference between C and
21 C++; right?

22 A. I could not remember it.

23 Q. Okay. And that deposition was in December, correct, of
24 last year?

25 A. Yes.

1 Q. And you wrote your expert report and signed it, I believe,
2 on November 12th of 2018; is that right?

3 A. I believe so.

4 Q. Okay. Now, after you received Dr. Cho's code, you
5 attempted to review it; correct?

6 A. I was looking for specific pieces of information within the
7 code. And, keep in mind, it was -- provided as a PDF, a
8 non-searchable, non-printable PDF, and it was two pages on a
9 page and it was about 95 pages. So it was not easy to review
10 because you couldn't search it. So at the time I was looking
11 for pieces of information.

12 Q. But you did attempt to review the entirety of that code
13 from Dr. Cho after you received it; right?

14 A. Yes.

15 Q. Okay.

16 A. But, you know, keeping in mind, only on a screen.

17 Q. Now, you were not able to understand the code provided by
18 Dr. Cho in its entirety; correct?

19 A. Well, I would say that I was looking for specific pieces of
20 information in it that I could not find easily.

21 Q. So let's look at your deposition testimony, pages 47 to 48.
22 And on line 24 of page 47 I asked you: "Were you able to
23 understand the entirety of that code?" This being a reference
24 to Dr. Cho's code.

25 And your answer was. "Since I just received a hard copy at

1 the end of the day on Friday, or near the end of the day on
2 Friday, and without having the actual native programs, neither
3 I nor my staff have been able to understand everything in that
4 code." Right?

5 A. Most certainly, because it was a non-searchable,
6 non-printable PDF. You could only look at one page at a time.

7 Q. Again, December 10th is when you're giving this testimony;
8 right?

9 A. Yes.

10 Q. And what you're saying is that you had just received a hard
11 copy of Dr. Cho's code the prior Friday, which is when Dr. Cho
12 was deposed; right?

13 A. Yes.

14 Q. And you attended Dr. Cho's deposition and sat through that
15 entire deposition; right?

16 A. Yes.

17 Q. But prior to Dr. Cho's deposition, in fact, several weeks
18 earlier, you had been given an electronic copy, it's a PDF, but
19 an electronic PDF of Dr. Cho's code; right?

20 A. Yes.

21 Q. Okay. So you did not see that code for the first time on
22 the Friday of Dr. Cho's deposition; right?

23 A. That's correct.

24 Q. Now, you just testified a minute ago that Dr. Cho's code
25 was not produced to you in native format and that this made it

1 difficult for you to evaluate it; correct?

2 A. Yes.

3 Q. And --

4 A. I believe she would agree with that.

5 Q. And you said the same thing many times at your deposition;
6 right?

7 A. Yes. And she agreed with it in her own testimony when she
8 was given a hard copy and said, "This isn't how I normally look
9 at it."

10 Q. I'm going to hand you two exhibits, one of which has been
11 marked IM73 and the other one IM74.

12 MR. SUBHEDAR: Your Honor, may I approach?

13 JUDGE BLACK: Yes. Thank you.

14 Q. So let's start with IM73. Now, you have seen this letter
15 before; correct?

16 A. Yes, at my deposition.

17 Q. Okay. And -- but prior to your deposition, you had never
18 seen this letter; right?

19 A. That's correct.

20 Q. Okay. Let's go to page two of the letter, and let's look
21 at the last paragraph there on that page. And you understand
22 this is a letter written by plaintiffs' counsel to defendants'
23 counsel; correct? Defendants' and intervenors' counsel;
24 correct?

25 A. Yes.

1 Q. Okay. Now, during this last paragraph on page two, the
2 letter states that quote:

3 "During our call yesterday, defendants and intervenors were
4 unwilling to agree that a read-only copy of the code would
5 suffice, stating repeatedly that native, writable code may be
6 required instead. But when we asked whether anybody on the
7 call knows for a fact that there is an expert working with
8 defendants/intervenors who actually does need native code for a
9 purpose that read-only code cannot fulfill, the only response
10 we received was that you were not prepared to answer that
11 question on the call (and could get back to us)."

12 In the next sentence, the letter states:

13 "Given this, what we would suggest is that you and experts
14 review the read-only code that we are producing today, and then
15 make a good faith determination on whether you have an actual
16 need to review the code in its native format. We believe, for
17 example, that the native-format code will be of little utility
18 to your experts, as it cannot be simply loaded onto an ordinary
19 computer and run. Rather, the code must be run on a
20 supercomputer, and in a specific software environment at that."

21 And in the final sentence, the letter states:

22 "In any event, if you and your experts conclude that you
23 truly do need to review the code in its native format, we are
24 willing to make that code available for inspection at a
25 reasonable time and for a reasonable duration."

1 Do you see that?

2 A. Yes.

3 Q. Now, did you know, prior to writing your expert report,
4 Exhibit D8, that plaintiffs' counsel had offered to make the
5 code, Dr. Cho's code, available in native format if any
6 defendants' or intervenors' experts indicated a need to see it
7 in native format?

8 A. I wasn't aware of this letter or the circumstances around
9 it.

10 Q. Did you ever indicate to anybody that you needed to see the
11 code in its native format prior to finalizing and submitting
12 your expert report, Exhibit D8?

13 A. I believe that I said that without having all of the inputs
14 to the code and having all of the native code that I could not
15 fully evaluate it.

16 Q. Okay. And you said that to whom?

17 MR. STRACH: Your Honor, I'm just going to object to
18 the extent this may get into attorney-client privilege
19 material. I certainly didn't think this kind of question would
20 come up.

21 MR. SUBHEDAR: I don't believe there's any
22 attorney-client privilege involved here. The parties did have
23 an agreement that communication between experts and counsel
24 would not be discoverable, generally. However, there was an
25 exception to that agreement that if the materials that the

1 attorney tells the expert end up in forming the basis of the
2 expert report, that would certainly be fair game for discovery.
3 And in this case, she has taken the position several times,
4 including in this court today, that the code was not produced
5 in native format. And the question is, did she ever indicate
6 to anybody that she needed it in native format, because, as the
7 letters have indicated, we offered to make it available if we
8 were asked for it.

9 MR. STRACH: Your Honor, that was a matter between the
10 lawyers. That has nothing to do with the expert.

11 JUDGE BLACK: Is there an assertion that her
12 communication is attorney-client? The question is who did she
13 tell it to.

14 MR. STRACH: Yeah, I mean, as counsel has said, we had
15 an agreement that generally --

16 JUDGE BLACK: So you think the answer to that is
17 protected by the attorney-client privilege?

18 MR. STRACH: Yes.

19 JUDGE BLACK: All right. I'd suggest you move along.

20 Q. Let me just ask you, before we leave this letter, can you
21 just verify the date on the letter on the first page.

22 A. October 9th.

23 Q. And so this is -- again, your expert report was served on
24 November 12, 2018 --

25 A. Yes.

1 Q. -- right?

2 Okay. You were retained to work on this case around
3 October 22nd, 2018; is that right?

4 A. It was probably at some point that week. As I testified
5 earlier, in my deposition anyway, that I was out of the
6 country. And then my area was hit by a hurricane, so I was out
7 of the office for quite some time and without power. So it was
8 probably, as I testified at my deposition, that week or maybe
9 towards the end of the week.

10 Q. Now, between the time that you were retained to work on
11 this case, which, as you said, was sometime during the week of
12 October 22nd, and the submission of your expert report on
13 November 12, you worked a total of about 52 hours in preparing
14 your report; is that correct?

15 A. That would have been approximately how many hours I billed.

16 Q. And in those 52 hours, you wrote the actual report;
17 correct, Exhibit D8?

18 A. Yes.

19 MR. SUBHEDAR: Okay. And if you could pull up Exhibit
20 D8, again, and look at Appendix B, please. I'm sorry. Go to
21 the -- yeah, the Materials Relied On page here.

22 In those 52 hours, you also reviewed all of the materials
23 that are listed here; correct?

24 A. I did.

25 Q. Okay. And you also testified at deposition that there were

1 some articles Dr. Cho had authored that she cited in the body
2 of her expert report that you also reviewed; is that right?

3 A. Yes. I think I testified that to the extent that they were
4 available.

5 JUDGE NELSON MOORE: Could you speak up a little?

6 THE WITNESS: To the extent that they were available.
7 I apologize, Your Honor.

8 Q. And all of those additional Dr. Cho articles are not listed
9 here in your CV under Materials -- I'm sorry, in your expert
10 report under Materials Relied On; is that correct?

11 A. That's correct. I believe that for the most part these
12 were items that I cited to in my report.

13 Q. Okay. Now, in the same 52 hours, you also attempted to
14 review Dr. Cho's code; right?

15 A. As I testified earlier about.

16 Q. Okay. Now, at the time that you wrote your expert report,
17 Exhibit D8, you did not know what all the fields in the output
18 provided by Dr. Cho referred to; is that accurate?

19 A. That is correct.

20 Q. And, ultimately, you decided not to spend the time it would
21 have taken you to determine what all the fields in Dr. Cho's
22 output represented; right?

23 A. That's correct, because by reviewing her output, I could
24 identify, by looking at the data, the values for the 17 named
25 plaintiffs with respect to each of their 3 million simulations.

1 Q. Okay. Let's look at page eight of your expert report,
2 Exhibit D8. And starting at -- toward the bottom of this page
3 and continuing to the next page, you state here, "The
4 parameters that are passed to the main function are initialized
5 in another file, likely a PBS batch script, which I have not
6 found in Dr. Cho's production to her report. Without knowing
7 the values of these parameters, I have no information regarding
8 what data and which parameters are actually used in her
9 programming code."

10 Do you see that?

11 A. Yeah.

12 Q. Now, please take a look at Exhibit IM74, which I handed you
13 a moment ago. Do you recognize this document?

14 A. Yes.

15 Q. And this is a document that was also an exhibit at your
16 deposition; correct?

17 A. Yes.

18 Q. Okay. If you look on page 2 of this letter, and turn your
19 attention to the fourth numbered paragraph. Now, at the time
20 that you submitted your report on November 12, you had not seen
21 this letter either; had you?

22 A. That's correct.

23 Q. And in this letter in paragraph 4, in the first portion is
24 listed a set of parameter values. Do you see that?

25 A. Yes.

1 Q. Okay. And in the second portion after the sentence that
2 begins with "Further, for your convenience," there are some
3 more parameter values; right?

4 A. Yes.

5 Q. All right. So some of the parameter values that are listed
6 here were not known to you at the time you submitted your
7 report on November 12th; right?

8 A. That's correct.

9 Q. And if you look back at page one of this letter, can you
10 just read for the record what the date of this letter is.

11 A. October 12th.

12 Q. Now, at your deposition I asked you when you first saw this
13 letter. Do you recall that?

14 A. Yes.

15 Q. And your answer was that you had not seen the letter until
16 the week before your deposition. So sometime the week prior to
17 December 10; right?

18 A. That's correct.

19 Q. Okay. Let's turn now to your expert report, Exhibit D8,
20 and let's look at pages 11 and 12. Okay. In paragraph 29, you
21 note that, Dr. Cho "states that she 'do[es] not utilize
22 partisan or electoral information in the creation of these
23 alternative maps.'" And in that sentence you're referring to
24 the creation of Dr. Cho's simulated maps; right?

25 A. Yes.

1 Q. Now, do you agree that that is an accurate statement, that
2 Dr. Cho did not utilize partisan or electoral information in
3 the creation of her alternative maps?

4 A. She states that, however, the underlying data is the
5 combination of the 2008 and '10 data, which are 49 percent. So
6 as I stated, that's going to be part of the driver of her
7 process.

8 Q. But you understand that Dr. Cho's process first entailed
9 generating the maps before she applies a certain year's or set
10 of years' election data to them; correct?

11 A. Yes.

12 Q. Okay. And you understand that in the creation of the maps
13 on the front end of her process, she's not using any electoral
14 or partisan data to create the maps in the first place; right?

15 A. Yes, that is correct. But the outcomes, thereof, will
16 impact the results of her simulations, because they're
17 fundamental to them.

18 Q. And just to be clear, in your last answer when you're
19 saying "the outcomes," what you're saying is that after she has
20 created her maps, the selection of which data, which election
21 data she applies to those maps will have some impact on the
22 outcome, on her results; is that what you're saying?

23 A. Most definitely.

24 Q. Okay. So let's turn now to your statistical analysis to
25 which you testified on direct examination. I'm going to hand

1 you a document from a prior case in which you did some expert
2 work.

3 MR. SUBHEDAR: Your Honor, may I approach?

4 THE COURT: Yes.

5 MR. SUBHEDAR: And I believe, Your Honors, that these
6 materials are already in the binders that have been prepassed
7 to the Court.

8 JUDGE BLACK: Very well. Thank you.

9 Q. So if we look at the entry in the binder for the case
10 *Maness versus City of High Point*, it's an expert report dated
11 March 23rd, 2018. Do you see that document?

12 A. Yes.

13 Q. Do you recognize that document?

14 A. Yes.

15 Q. And is this an expert report that you prepared and signed?

16 A. Yes.

17 Q. Please describe, just in general terms, what was at issue
18 in this case.

19 A. In this case there was an allegation of discrimination on
20 the basis of gender with respect to the selection, I believe it
21 was, for Major.

22 Q. Okay. On page six of this document you explain your
23 methodology for the statistical analysis that you performed; is
24 that correct?

25 A. Yes.

1 Q. And you explained here that you selected a benchmark
2 percentage of female law enforcement officers and multiplied
3 that by the number of selections for the plaintiff's desired
4 position to determine the number of expected female selections;
5 is that right?

6 A. Yes.

7 Q. Okay. And you then calculated the difference between the
8 number of actual female selections and the number of expected
9 female selections; right?

10 A. Yes.

11 Q. And then you summed the difference to determine the
12 overall -- I'm sorry. You summed the differences to determine
13 the overall difference across the relevant time period; right?

14 A. Yes.

15 Q. Now, after you did all of that, you determined the number
16 of standard deviations associated with the difference between
17 the actual number of female selections and the predicted number
18 of female selections; right?

19 A. Yes.

20 Q. And if you look down at Footnote 8 on page six, it says
21 that you prepared this analysis using the binomial
22 distribution; right?

23 A. Yes.

24 Q. Okay. What are the conditions that a series of trials must
25 meet for the probability of a given outcome to have a binomial

1 distribution?

2 A. Well, when we think about a binomial, we're looking at that
3 they're, you know, independent and that they're sampling with
4 replacement.

5 JUDGE NELSON MOORE: If you could speak up.

6 A. And that they're sampling with replacement.

7 Q. Okay. So just to back up a bit here. So in the analysis
8 you were doing in this case, what you were looking at is the
9 number of selections of a female candidate, and you were trying
10 to figure out how much the expected number of hires differed
11 from the actual number of hirings; correct?

12 A. Yes.

13 Q. And am I correct that each of the hiring decisions could be
14 considered to be a trial in the language of statistics?

15 A. Yes, where the benchmark -- well, as you select from a
16 proxy benchmark, you're replacing. So it's sampling with
17 replacement.

18 Q. Okay. And what you were doing here is using the percentage
19 of female candidates in the population of applicants, which is,
20 I think, 11 point -- was it 11.8 percent in this case? Do you
21 remember the number? Oh, yeah, it's 11.8 percent was the
22 number, right, the benchmark number that you used?

23 A. I don't believe so.

24 Q. Well, let me direct you to page six, towards the top of
25 that page, and the second sentence.

1 A. Yes.

2 Q. Okay. And you got that benchmark by examining the
3 percentage of female applicants in the relevant pool; is that
4 how you arrived at the 11.8 percent number?

5 A. Yes.

6 Q. Okay. So what you were doing is you're assuming the --
7 sorry. Did you finish your answer?

8 A. Well, so, we're multiplying that benchmark by the number of
9 selections to come up with a predicted number.

10 Q. Okay. And so you're taking the percentage of female
11 applicants, multiplying it by the number of selections and
12 trying to arrive at a predicted number of female selections;
13 right?

14 A. Yes.

15 Q. Okay. And then, eventually, you're going to compare that
16 predicted number against the actual number of female
17 selections; right?

18 A. Yes.

19 Q. And then you're going to figure out what that difference is
20 and how many standard deviations it is away from the expected
21 number of female selections; right?

22 A. Yes.

23 Q. Okay. Now, when I asked you a moment ago about the
24 binomial distribution, I'm correct, am I not, that the way that
25 you are computing the standard deviations in this report is by

1 assuming a binomial distribution for the -- for the trials or
2 the individual hiring or selection decisions; right?

3 A. Well, we're assuming that they're independent.

4 Q. So did you assume that they're independent?

5 A. That they're independent trials.

6 Q. So you did make that assumption in doing your analysis in
7 this report?

8 A. When I prepared this report, I used this because, here,
9 it's a proxy benchmark. And when we're running analyses or
10 preparing analyses of selections, when we do not know the
11 actual benchmark, we are using a proxy, we use the binomial.

12 Q. Okay. So the binomial distribution requires that each of
13 the individual trials, or, in this case, each of the individual
14 selection decisions has to be independent of each other
15 selection; correct?

16 A. It's assumed that they're independent.

17 Q. Okay. And the binomial distribution, in order to apply it
18 to this type of problem, you also have to assume that the
19 percentage chance of a female selection and a female hire is
20 the same, it's consistent, that is, 11.8 percent, in every
21 single hiring decision; correct?

22 A. Well, actually, technically here it's using a different
23 benchmark with each, because it's changing.

24 Q. So you're not -- sorry. Go ahead.

25 A. So, in this context, we're not using one benchmark in this

1 report. We're using different benchmarks.

2 Q. Okay. So the binomial distribution, in order for it to be
3 applicable, each of the individual trials or the hiring
4 decisions or coin flips, whatever it is that you're testing,
5 each of the individual things must have the same probability;
6 right?

7 A. It's an assumed assumption, and it is what we use when we
8 have a proxy benchmark.

9 Q. Now, when using a binomial distribution -- well, let me --
10 let me back up.

11 One could use or assume a binomial distribution if one
12 were, for example, flipping a coin and running a series of
13 trials or experiments to see what types of results come up;
14 correct?

15 A. Sure.

16 Q. Okay. And the binomial distribution -- in the binomial
17 distribution, there are typically two possible outcomes; right?
18 So in the coin flip, it would be heads or tails; right?

19 A. Yes.

20 Q. Okay. And you could have different types of trials or
21 different types of experiments where the two outcomes are some
22 other pair, like, hire or no hire; correct?

23 A. Yes.

24 Q. Now, in Table 3 of this expert report that we're looking
25 at -- I'm sorry. Actually, let's turn to pages six and seven

1 of IM71.

2 So here on page six, the second sentence, you have written,
3 "Generally, social scientists and the courts conclude that
4 differences between two groups (e.g., male and female
5 candidates) are statistically similar when the difference, in
6 terms of the number of standard deviations, is approximately
7 two (or three) standard deviations"; right?

8 A. Yes. It's generally two, but there have been some
9 instances of three. So that's why I put it in parentheses.

10 Q. Okay. So let's turn now to Exhibit IM70, which is a report
11 in the *Bingham versus Raytheon* case. Do you recognize this
12 document?

13 A. Yes.

14 Q. And if you look at -- I think it's page two, there's a
15 signature. That's your signature; right?

16 A. Pardon?

17 Q. On page two of the document there is a signature. That's
18 your signature; correct? I'm sorry. It may be -- we just had
19 it up a moment ago.

20 Let me ask you, do you see your signature on that document?

21 A. Yes.

22 Q. Okay. Now, do you recall, just at a high level, what was
23 at issue in this case?

24 A. I would have to go back and look.

25 Q. Okay.

1 A. I do not recall.

2 Q. Let's turn to page 11 of this report. Now, at the bottom
3 of this page, I guess spanning over into page 12, you have this
4 sentence that starts with "Generally, social scientists and the
5 Courts conclude." Do you see that sentence?

6 A. Yes.

7 Q. Okay. And this is basically the same sentence that we just
8 read from the other report, with the exception that the
9 parenthetical has changed. So here you say, "(i.e., employees
10 age 55 and older compared to employees under age 55)"; right?

11 A. Yes. It's a paragraph I use quite often.

12 Q. Okay. Now let's turn to your expert report in this case,
13 which is Exhibit D8, and let's look at page 19. Okay. So in
14 paragraph 40 -- now, here you are describing the statistical
15 test and analysis you did for this case; correct?

16 A. Yes.

17 Q. And in paragraph 40 you start out by saying you "Compared
18 the actual number of Republican congressional seats to the
19 number we would predict based on the Republican representation
20 among the voters"; right?

21 A. Yes.

22 Q. Okay.

23 MR. SUBHEDAR: Now, if we could keep that up, and also
24 maybe bring up Table 3 from the next page of Exhibit D8, still
25 your expert report.

1 Q. And this is a table about which you testified on direct
2 examination; right?

3 A. That's correct.

4 Q. And this text that we were just looking at in paragraph 40,
5 you're describing the analysis that ultimately is reflected in
6 that Table 3; right?

7 A. Yes.

8 Q. Okay. So in paragraph 40, when you say in this first
9 sentence that you're comparing the actual number of Republican
10 congressional seats to the number we would predict based on the
11 Republican representation among the voters, so the "Republican
12 representation among the voters" that you're referring to there
13 is the percentage that appears in the second column of Table 3
14 under "Republican Vote Proportion"; right?

15 A. Yes.

16 Q. And just to take one example of, let's say, 2012, there's a
17 number there that is 51 percent. And that 51 percent
18 represents the statewide Republican vote percentage from the
19 2012 election; correct?

20 A. That's correct.

21 Q. Okay. And you were taking that 51 percent and you are
22 multiplying it by the number of seats, which is 16. That's in
23 your third column in Table 3; right?

24 A. Yes.

25 Q. And then you are coming up with expected Republican seats

1 of 8.16, and that's in the fifth column of your Table 3; right?

2 A. That's correct.

3 Q. Okay. So putting this together, the table together with
4 the first sentence of paragraph 40, what you're saying and what
5 you're showing here is that based on a 51 percent statewide
6 Republican vote percentage, you're saying that, quote, "We
7 would predict," unquote, an expected number of Republican seats
8 of 8.16; right?

9 A. Yes.

10 Q. Okay. Now, if we look at paragraph 40 and look at the
11 third sentence, now, here we find that same sentence that you
12 have used in other reports as well -- correct? -- with the
13 parenthetical replaced? This time it's an "e.g., Republicans
14 and Democrats"; right?

15 A. That's correct.

16 Q. So what you are doing and describing in this report, or at
17 least in this portion of your expert report, in this case, is
18 similar, conceptually and process-wise, to what you did in the
19 other two reports; is that a fair statement?

20 A. I would hope so.

21 Q. Okay. Returning to Table 3, and looking, still, at the
22 first row for 2012, now that you have calculated the number of
23 Republican seats that you would expect as being 8.16, based
24 upon the Republican statewide votes percentage, you then
25 compare that number against the number of actual Republican

1 seats, which is 12; right?

2 A. Yes.

3 Q. And then you come to a difference, which is 3.84, and
4 that's captured in the sixth column of Table 3?

5 A. Yes.

6 Q. Okay. Now, in the final column of Table 3, you have
7 presented information about the number of standard deviations
8 associated with the difference; correct?

9 A. That's correct.

10 Q. And in order to compute that number -- so, for example,
11 it's a value of 1.92 in the first row.

12 In order to compute that number, you used a generally
13 accepted formula for a standard -- for calculating a standard
14 deviation; correct?

15 A. That's correct.

16 Q. Okay. But the formula that you used is a formula that only
17 applies if you were dealing with a binomial distribution;
18 right?

19 A. It's applying the binomial distribution variance, yes.

20 Q. Okay. So that formula would not apply if the distribution
21 at issue is not a binomial distribution; right?

22 A. Technically, here, we're assuming proportional
23 representation. And based on that assumption, then it would be
24 applicable.

25 Q. Okay. So let me just --

1 A. Because it's in response to Dr. Cho's Table 2 where she's
2 asking -- or she's stating the differences between the
3 percentage of seats held by Republicans if that percentage was
4 quite different -- and I can't recall her exact words -- from
5 the Republican vote share, even though we do not have
6 proportional representation, that it would be cause for
7 concern, and that's why I prepared this test.

8 Q. Okay. So I think you may have jumped ahead of me a little
9 bit. So let me just so back and ask the question that I asked
10 previously, because I want to make sure we're all clear on
11 this.

12 The formula that you used to calculate the values in the
13 last column of Table 3 of your expert report in this case,
14 Exhibit D8, that formula is not applicable if the distribution
15 you were analyzing is not a binomial distribution; right?

16 A. Well, if it's not meeting the assumptions of the binomial
17 of independent trials.

18 Q. Okay. There are many assumptions in the binomial, right,
19 one of which is that each trial has to be independent; right?

20 A. Uh-huh. And --

21 Q. And -- sorry?

22 A. -- sampling with replacement in that you can only have two
23 outcomes.

24 Q. Okay. And another important assumption of a binomial is
25 that the probability in each trial has to be identical; right?

1 A. That's basically the second assumption, which is sampling
2 with replacement.

3 Q. Okay. So sampling with replacement, you're using that
4 phrase to mean that the probability in each trial must be the
5 same as the probability in every other trial; right?

6 A. Right. Because if you make a selection based on a proxy
7 pool, that proxy remains unchanged.

8 Q. Okay. Now, in this case, you mentioned a moment ago that
9 you prepared this analysis based on something that is found in
10 Dr. Cho's report. Now, just to be clear, Dr. Cho at no point
11 said that we have a proportional representation system, did
12 she?

13 A. I'd have to have her report.

14 Q. Okay.

15 A. Because she said, even though we do not have a system of
16 proportional representation, to the extent that there's
17 differences in the proportional -- you know, in the proportion
18 of the vote share to the percentage seats, that it would be a
19 cause for concern. That was her statement above her table.

20 Q. Okay. So let's look at Plaintiffs' Exhibit P087, which is
21 Dr. Cho's report.

22 MR. NAJARIAN: I'm sorry. The number again, sir?

23 MR. SUBHEDAR: It was P087.

24 MR. NAJARIAN: Thank you.

25 MR. SUBHEDAR: And let's go to Table 2, all right,

1 page 31 and let's include the paragraph immediately above it.

2 Q. Now, this is what Dr. Cho wrote in her report and
3 presented, and I think this is what you were referencing as the
4 basis for what we were looking at in your report as a response
5 to this; correct?

6 A. To address her statement, yes.

7 Q. Okay. And Dr. Cho states expressly here in the second
8 sentence, correct, that "We do not have a system of
9 proportional representation, so the proportion of votes need
10 not mirror the proportion of seats"? Right?

11 A. Yes.

12 Q. And then she goes on to note here that, "large
13 discrepancies may indicate that there is a cause for concern
14 since large discrepancies might emerge from electoral maps that
15 are partisan gerrymanders"; right?

16 A. That's what she wrote, yes.

17 Q. So she's not saying here that simply because the
18 Republicans received 51 percent of the statewide vote share
19 that they must obtain 70 -- I'm sorry, 51 percent of the seat
20 share, is she?

21 A. No. She is stating that large discrepancies may be a cause
22 of concern.

23 Q. Okay. So let's go back now to your Table 3 in your expert
24 report, which is Exhibit D8, page 20.

25 Okay. So the formula that you used in the final column is

1 one that applies to the binomial distribution, and the binomial
2 distribution requires that the probabilities in each trial be
3 identical; right? That's what we've established already.

4 A. Sampling with replacement, yes.

5 Q. Okay. Now, in the context of a districting problem such as
6 this, am I correct that the trials could be considered each of
7 the 16 districts that we're dealing with here?

8 A. Yes.

9 Q. Okay. And so the assumption that must be true in order for
10 a binomial distribution to apply to this problem is that the
11 probability has to be identical in each of the 16 districts;
12 right?

13 A. Well, you're making the assumption of sampling with
14 respect -- that they're independent trials.

15 Q. Okay. That trials must be independent, so each -- the
16 result in each district must be independent for the binomial
17 distribution to apply; right?

18 A. It's an assumption of it.

19 Q. Okay. And another assumption is that the result in each of
20 the 16 districts must have the same probability; right?

21 A. Yes. Sampling with replacement.

22 Q. Okay. So what you have done here, in using the binomial
23 formula for calculating standard deviation, proceeds on the
24 assumption that each of the 16 districts has the same
25 Republican percentage chance or probability, which is 51

1 percent in 2012; right?

2 A. Yes. And if we have a statistically significant outcome,
3 going to what Dr. Cho said, it would be a cause for concern.

4 Q. Okay. Now, but we know for a fact -- well, let me ask you.
5 Do you know whether each of the 16 districts in Ohio in 2012
6 had a Republican probability of prevailing of 51 percent?

7 A. No, they did not.

8 Q. Okay.

9 A. It was testing her statement on a statistical basis.

10 Q. Okay. But, again, we just looked at Dr. Cho's report. She
11 did not say to make any assumption that every district will
12 have a 51 percent chance of Republican victory, did she?

13 A. No, but she's saying big discrepancies may be a cause of
14 concern, and that's why I prepared this test.

15 Q. The assumption on which you're proceeding, and I understand
16 you're saying that you're making the assumption based on
17 something Dr. Cho stated in her report, but the assumption that
18 you're making of a constant probability for Republican victory
19 across all 16 seats, all 16 trials, that would translate into a
20 system of proportional representation; right?

21 A. Yes, just as she is saying that while it's not proportional
22 representation, if you have a large discrepancy, it would be --
23 raise a concern. That's why I'm testing it.

24 Q. So let's look at --

25 THE COURT: How are you coming?

1 MR. SUBHEDAR: Probably about maybe 15 minutes, 15 to
2 20 minutes.

3 JUDGE BLACK: We need to take a break.

4 MR. SUBHEDAR: Okay.

5 JUDGE BLACK: We're going to break until 3:20. You're
6 not going to get her off and on. We typically break at 2:45.
7 We're going to break for 20 minutes until 3:15.

8 During the break, do not discuss your testimony. You
9 understand; correct?

10 THE WITNESS: Yes, Your Honor.

11 JUDGE BLACK: All right. Enjoy the break.

12 COURTROOM DEPUTY: All rise. This court is in recess
13 until 3:15.

14 JUDGE BLACK: 3:20, is that what I said?

15 COURTROOM DEPUTY: You said 20 minutes. 3:15.

16 JUDGE BLACK: We're going to go till 3:20.

17 (Laughter.)

18 (Witness temporarily excused.)

19 (Recess taken: 2:56 PM - 3:21 PM.)

20 (Janet R. Thornton resumes the witness stand.)

21 JUDGE BLACK: Please be seated. Thank you.
22 We're back on the record braced for more binomial
23 distribution.

24 (Laughter.)

25 JUDGE BLACK: The witness remains under oath, and she

1 understands; correct?

2 THE WITNESS: That's correct, Your Honor.

3 JUDGE BLACK: Very well. You may continue.

4 JUDGE WATSON: Ms. Thornton, try to keep your voice
5 up, if you would.

6 THE WITNESS: I apologize.

7 MR. SUBHEDAR: Thank you, Your Honor.

8 BY MR. SUBHEDAR:

9 Q. Dr. Thornton, before the break we were looking at your
10 expert report, so let's pull that out again. It's Exhibit D8.
11 And we were looking at the Table 3 on page 20.

12 So one thing I wanted to check with you, the title of Table
13 3 that you've indicated here, you have said that this is a
14 "Comparison of the Republican Two-Party Vote Proportion to the
15 Proportion of Republican Congressional Seats, 2012 to 2016."
16 So the phrase "Two-Party Vote Proportion," by that you are
17 indicating, correct, that the number in the second column, such
18 as 51 percent for 2012, that that is a two-party vote
19 percentage, meaning the Republicans received 51 percent of the
20 statewide vote and the Democrats received the remaining 49
21 percent; is that right?

22 A. I believe so. I'd have to look at Dr. Cho's report. I
23 believe I took it from there.

24 Q. Okay. So you didn't do any independent determination on
25 whether that 51 percent is, in fact, a two-party Republican

1 vote share; is that right?

2 A. That's correct. I believe I took it directly from her
3 report.

4 Q. Okay. And with regard to that same question, we talked
5 about earlier how a -- that if you are going to assume that a
6 binomial distribution applies, that there has to be just two
7 possible outcomes in each trial; right?

8 A. Yes.

9 Q. So it would be important in the context of trying to go
10 apply a binomial distribution to this districting question that
11 you're attempting to analyze here, it would be important to use
12 a two-party vote percentage breakdown; right?

13 A. Well, with the binomial, it can be a proxy benchmark, as I
14 testified earlier. What's important is those 16 seats that
15 were selective of either a Democratic candidate or a Republican
16 candidate, because it's one or the other. And here I am
17 applying a proxy benchmark.

18 Q. Okay. So just to pick up on your last answer, if this 51
19 percent, for example, was not a two-party percentage vote but,
20 rather, was -- you know, 51 percent went to the Republican,
21 let's say 40 percent only went to the Democrat and the
22 remaining nine percent went to independents or other parties,
23 you would not be using a -- you would not want to use a 51
24 percent number in that situation, because it's not a two-party
25 vote percentage; is that fair?

1 A. Well, you're saying one would not want to. Here, with the
2 binomial, it's a proxy benchmark we're using, so the importance
3 is what are the outcomes? I have two possibilities. I can
4 choose a benchmark, just as when I illustrated earlier today
5 about looking at a proxy in an employment matter. It's a
6 proxy.

7 Q. Okay. So let's --

8 MR. SUBHEDAR: If we can keep that document up, that
9 table up. I also want to pull up, if we could, IM70, which is
10 one of the declarations you submitted in another case. And if
11 we could go to page 12 of that report.

12 Q. Now, at the bottom of this page 12, there is a table, Table
13 2, and the title of the table is "Probability of Occurring by
14 Chance Associated with the Number of Standard Deviations." Do
15 you see that?

16 A. Yes.

17 Q. So in the first row of this table there is a number which
18 represents a number of standard deviations of 1.65; right?

19 A. Yes.

20 Q. And what this is saying is that if an actual value that one
21 obtains after a series of trials is 1.65 standard deviations
22 away from the expected value, that there is a ten percent
23 chance that you got that result by chance; is that accurate?

24 A. There's a probability of that outcome or something more
25 extreme.

1 Q. Okay. And the second row similarly says that, if your
2 actual result is 1.96 standard deviations away from your
3 expected result, then the probability of that outcome or
4 something more extreme occurring by chance is five percent;
5 right?

6 A. Yes.

7 Q. Okay. So we can keep that document in front of us, but
8 let's look now at your Table 3 in the expert report in this
9 case.

10 So we've talked earlier about the binomial distribution and
11 applying it to this particular exercise. But let's assume for
12 a moment that we can apply the binomial distribution to this
13 analysis.

14 If we look in your first -- in the first row of your Table
15 3 in Exhibit D8 for 2012, what we see is that you calculated,
16 using the formula for standard deviation that applies to
17 binomial distributions, a value of 1.92, right, in the final
18 column?

19 A. Yes.

20 Q. And what you're saying by that number is that the 12, the
21 number 12, which is the number of actual seats, is a distance
22 away from the -- what you've called the expected Republican
23 seats, 8.16, that that difference is 1.92 standard deviations
24 away from the expected number of 8.16; is that fair?

25 A. Yes.

1 Q. Okay. Now, let's take that 1.92 as a given or as a
2 properly calculated number of standard deviations.

3 Can you tell me, by referring to Table 2 in IM70, your
4 earlier expert report, what the chances of an outcome of 12
5 are, what the probability of an outcome of 12 are using this
6 reference table that you included in your expert report in
7 another case?

8 A. Well, the probability associated with the difference
9 between the actual and expected, based on that chart, would lie
10 between five and ten percent.

11 Q. Okay. So even assuming all of your analysis with regard to
12 Table 3 and the use of the binomial distribution is done
13 accurately, your conclusion that 12 seats is 1.92 standard
14 deviations away from what you say is the expected number of
15 8.16, that outcome has a five to ten percent chance of
16 occurring randomly; right?

17 A. Something -- or something more extreme has a probability of
18 occurring by chance that ranges between five and ten percent.

19 Q. Okay.

20 MR. SUBHEDAR: So we can take down IM70, but let's
21 stay with the expert report, your expert report in this case.

22 Q. Just to clarify one point, if we go back to paragraph 40 on
23 page 19, I just want to make sure that the record is clear on
24 this.

25 The first sentence, right, states, quote, "I compared the

1 actual number of Republican congressional seats to the number
2 we would predict based on the Republican representation among
3 the voters."

4 The "we" that you have in that sentence, that "we" is
5 referring to you; correct?

6 A. Yes. I generally write that way.

7 MR. SUBHEDAR: Okay. So let's, again, keep this page
8 up, and let's also pull up Plaintiffs' Exhibit 88, which is Dr.
9 Cho's rebuttal expert report. And in Dr. Cho's rebuttal, let's
10 go to page 18. Okay. And in Dr. Cho's report maybe we can
11 blow up that middle paragraph that starts with "Based on these
12 assumptions." Yes.

13 Q. Okay. Actually, before we look at that closely, let's look
14 at your own report on page 19. We talked about this earlier,
15 but in the middle of this paragraph 40, you have this sentence
16 that says, "A difference that is less than two (or three)
17 standard deviations is consistent with a greater than 5% (or
18 1%) probability of that difference occurring by chance."

19 Now, earlier you've testified you've seen some authorities,
20 maybe even some Courts even, say that you could use two or
21 three standard deviations; is that correct?

22 A. Yes, but the general standard is two standard deviations
23 and that's the standard I used.

24 Q. Okay. So now if you go to Dr. Cho's rebuttal report. And
25 if you look at this middle paragraph, she is -- and this

1 rebuttal report is responding to the statistical test and
2 analysis and the conclusions that you presented in your report,
3 D8; right?

4 A. I'd have to check the five and 12. I don't remember what
5 it is. I did check it at one point in time. I calculated it
6 at one point in time. I just don't remember.

7 Q. Okay.

8 A. And she's -- the last statement I think is an
9 overstatement.

10 Q. Okay. So let's just -- let's break it down. I just wanted
11 to first confirm that in this section of Dr. Cho's rebuttal
12 report she's responding to your analysis in your report;
13 correct?

14 A. That's correct.

15 Q. Okay. So what Dr. Cho is saying here in the middle of this
16 paragraph that we have on the screen is that if your
17 conclusions about standard deviations, as you applied them in
18 Table 3 of your expert report, were to be accepted, Dr. Cho is
19 saying that in this passage, that if we were to apply a two
20 standard deviation standard or test, that the Republicans could
21 win as few as five or as many as 12 seats. And under your
22 conclusion, all of those would be within two standard
23 deviations and, therefore, statistically indistinguishable;
24 correct?

25 A. That's what she has written.

1 Q. And what you said a moment ago is that you have not, sort
2 of, computed these numbers to confirm that the end points are
3 five and 12; right?

4 A. I know that they're end points. I know that you can have
5 significant outcomes at both ends. And so in the middle, it's
6 addressing that question as to how big is the difference to
7 result in statistically significant outcomes.

8 Q. Okay. So -- and I understand that you haven't computed the
9 specific numbers, but what -- just to make sure we're
10 understanding Dr. Cho's statement here, she's saying anything
11 below five seats or anything above 12 seats, that would be
12 statistically significant, but anything between five and 12
13 would be a statistically indistinguishable; right?

14 A. It's not, statistically speaking, different from zero.

15 JUDGE BLACK: I'm going to need you to keep your voice
16 up. I'm sorry.

17 THE WITNESS: I apologize.

18 JUDGE BLACK: I didn't hear the answer.

19 THE WITNESS: It's not, statistically speaking,
20 different from zero.

21 Q. And when you say different from zero, are you saying zero
22 difference from the expected value?

23 A. Yes. That if there was perfect parity versus having some
24 deviation from it, statistically speaking, it's not different
25 from zero.

1 Q. Okay. So perfect parity in your last answer would mean
2 that the number in that first row of your table, that the
3 actual number comes in exactly at 8.16; correct?

4 A. Yes.

5 Q. Okay.

6 A. Which is an impossibility?

7 Q. Understood. And so that's where you're calling zero and
8 you're saying that there's a lower point and a higher point,
9 which are also the same thing, effectively, statistically, as
10 zero deviation from the expected?

11 A. That's right. What we're looking for is whether there are
12 extremes, large deviations that would result in a statistically
13 significant outcome.

14 Q. Okay. And so Dr. Cho calculated those end points as five
15 and 12 if you use a two standard deviation approach; right?

16 A. That's what she calculated.

17 Q. Okay. And then she also provides numbers here that if we
18 were to use a three standard deviation approach, then anything
19 between three seats and 14 seats for the Republicans, all of
20 that would be statistically the same or indistinguishable from
21 an exact result of 8.16 seats; right?

22 A. That's what she says.

23 Q. And you have not done the computations for the three
24 standard deviations either?

25 A. I have not, no.

1 Q. Okay. Now let's look at Table 4 of your expert report.
2 This is on page 21.

3 Now, I believe you provided some testimony on this during
4 your direct examination, but I just wanted to confirm.

5 Now, in the final column of this table, you have, again,
6 presented some information about the number of standard
7 deviations; right?

8 A. Yes.

9 Q. And to calculate that number, you have, once again, used
10 the formula for calculating standard deviation that applies for
11 binomial distributions; right?

12 A. I've used the binomial variance, yes.

13 Q. Okay. And so in this case you are assuming that the
14 information or data that you are evaluating, that it is safe to
15 apply a binomial distribution assumption to that data; right?

16 A. Yes.

17 Q. Okay. Now, when we talked about Table 3 earlier, you
18 indicated, when I asked you some questions about whether it's a
19 safe assumption to apply the binomial distribution to the data
20 being evaluated in Table 3, you pointed back to Dr. Cho's
21 report and what she said in some of her analysis; right?

22 A. Yes.

23 Q. Okay. And I think you pointed specifically to her Table 2
24 in her opening -- her initial report; right?

25 A. Yes.

1 Q. Okay. Now, this Table 4, the analysis you're presenting
2 here, this analysis isn't being presented in response to Dr.
3 Cho's Table 2; right?

4 A. Well, it's another way of addressing the question, and that
5 is with regards to 2012. Because she's saying here's these
6 results of these elections, but we have the 16 seats in 2012
7 that have this composition that's continued in these other
8 years. If we were to go back and see what was the composition
9 as of 2010, how does that compare, statistically speaking, to
10 2012? So it's a continuation of my analysis.

11 Q. Okay. Let's look at Table 5 of your report. Now, this is
12 another table you've done of some analysis. Did you make any
13 assumptions on this table with regard to whether the data
14 follows a binomial distribution?

15 A. This isn't a statistical analysis.

16 Q. Okay. Let's look at Table 6, please. Now here in the
17 final column you have, again, presented some standard deviation
18 numbers. Did you calculate these numbers using the standard
19 deviation formula that applies to binomial distributions?

20 A. Yes.

21 Q. Okay. And in this table you're responding to 2012, 2014,
22 and 2016 analysis; right?

23 A. Yes, using Mr. Cooper's statistics.

24 Q. Okay. So just to summarize, you made an assumption of --
25 that the binomial distribution applies in Table 6 and in Table

1 4 and in Table 3; right?

2 A. Yes. And with respect to Table 4, when Dr. Cho raised the
3 question of whether a different statistical test be conducted,
4 I ran the same analysis using the Poisson binomial, even though
5 I disagreed with her statements of what to use, because I
6 thought it would bias the results, but I did it and I confirmed
7 the results.

8 Dr. Cho stated that I used the wrong -- that I used the
9 incorrect test and stated I should have adjusted for each
10 district, but she did not provide those results. So I did test
11 it.

12 I would also like to just note that I read her testimony
13 from last week where she stated what I was concerned about.
14 And so then the question is, "Well, what do you use for each of
15 the Republican vote proportions?" One thought I had after
16 reading that testimony is perhaps use the values from her
17 simulated maps, like Figure 4, the median and mean points for
18 each district. If you use that, it's the same result that I
19 have here in terms of it's not statistically significant.

20 Q. Okay. So there was a lot you said there. Let me unpack
21 that a little bit.

22 First of all, you said that in response to what Dr. Cho
23 said about your analysis in Table 3 of your expert report and
24 what Dr. Cho felt were some issues or problems with your
25 analysis, you said that you reran some analysis using a Poisson

1 distribution instead of a binomial distribution; right?

2 A. Yes.

3 Q. Now, this analysis that you ran using a Poisson
4 distribution, you didn't present that in your expert report,
5 did you?

6 A. No, because my expert report was before her rebuttal
7 report. So after reviewing her rebuttal report I calculated
8 those standard deviations using the -- the Poisson binomial.
9 The conclusions do not change.

10 Q. Okay. And you did not present your analysis using the
11 Poisson distribution, you did not present or describe that at
12 your deposition either, did you?

13 A. Yes, I did.

14 Q. Did you provide a detailed description of how you proceeded
15 to do that analysis?

16 A. I thought I did.

17 Q. Okay. Let me ask this. Did you present anything in
18 writing stating the assumptions you used and the conclusions
19 you reached or the numbers that you reached with regard to the
20 analysis that you did using the Poisson distribution?

21 A. No, I don't believe that anyone asked for it. If they did,
22 I'm not aware of it.

23 Q. Okay. So -- and just to clarify, your report, as we said,
24 or your rebuttal report was served on November 12th; correct?

25 A. Yes.

1 Q. And Dr. Cho served her second report, which is responding
2 in rebuttal to your report, on November 26th, 2018; is that
3 right?

4 A. Yes.

5 Q. Okay. And then your deposition, as we've earlier
6 established, didn't happen until December 10?

7 A. Yes.

8 Q. Okay. Now this Poisson distribution analysis that you did,
9 did I understand correctly that what you were trying to do is
10 to correct or to address the criticism that you cannot use 51
11 percent as the probability of Republican victory in each of the
12 16 districts?

13 A. What the Poisson binomial is doing is assigning a different
14 benchmark, or proxy benchmark, to each of the districts. That
15 is what it is doing.

16 Q. And when you say a different proxy or benchmark, I just
17 want to make clear, what you're saying is that you were using a
18 different probability for each of the 16 districts, or each of
19 the 16 trials to use a statistical term; right?

20 A. Yes.

21 Q. Okay. And when you applied these district-specific
22 percentages, different than 51, did you use percentages that
23 came from actual election results?

24 A. Yes, which is what I raised was my concern during my
25 deposition.

1 Q. Which election results did you use when you provided those
2 percentages for each of the 16 trials?

3 A. I used the 2012 through '16 election results.

4 Q. Okay.

5 A. Which, again, I testified was my concern.

6 Q. Okay. So 2012 through 2016 election results, all of
7 those -- in all of those election results, the districts, the
8 16 districts were defined by the map that is being challenged
9 in this case; right?

10 A. Yes. And that's why I stated in my deposition that I was
11 addressing what Dr. Cho wrote, but I did not understand why, as
12 I read her report, she was suggesting to do that.

13 Q. Now, Dr. Cho did not suggest to do a Poisson distribution
14 by substituting in actual district-specific percentages using
15 the current map, did she?

16 A. She said that you needed to adjust for each -- the
17 probability from each of the districts. To do that, you're
18 using a Poisson binomial.

19 Q. Did Dr. Cho indicate anything in her report saying that she
20 believed the analysis should be rerun using district-specific
21 numbers, or did she simply say that your assumption, that 51
22 percent applies to all districts, is not a correct assumption?

23 A. She -- as far as I recall, she was criticizing the use of a
24 proxy benchmark from her Table 2 to apply in the binomial, and
25 she said you need to adjust for different probabilities for

1 each of the districts.

2 I tested that proposition to see if it would change the
3 outcomes. Even though I did not agree with it, I believe that
4 the analysis that I prepared was the best proxy given the
5 question that, in a sense, she was raising from her statement
6 that, "Are these two numbers different, statistically
7 speaking?"

8 Q. So let's pull up your expert report, Table 3, one more time
9 here.

10 We talked earlier about this notion that for a binomial
11 distribution it is necessary for the individual trials to be
12 independent. Do you recall that?

13 A. Yes.

14 Q. Okay. Now, are you familiar with the concept of mutual
15 independence?

16 A. You'll have to remind me of that.

17 Q. Okay. Have you heard that term used in statistics before?

18 A. I have -- right now I'm just thinking about independence.

19 Q. Okay. And before I go further, let me also ask you have
20 you heard the term pairwise independence?

21 A. Yes.

22 Q. And do you know what that term means?

23 A. Well, we've run pairwise tests where they're independent
24 pairs.

25 Q. Okay. So let me offer a definition for each of those two

1 terms and you can tell me if it seems consistent with what you
2 know or you disagree.

3 So is it correct that a mutual independence basically means
4 that there is no correlation between two things, whether
5 because they're causing the -- they're causing some swing in
6 the other or there's some external factor that is causing the
7 two things to move in the same direction, two things like
8 numbers or results?

9 A. I would want to go back and refer to my statistics books.

10 JUDGE BLACK: I didn't hear it. I'm sorry.

11 THE WITNESS: Pardon me.

12 A. I'd want to confirm that with my statistics books.

13 Q. Okay. And pairwise independence, is it fair to say that
14 pairwise independence sort of captures the concept that the
15 movement of one thing, one number, let's say, does not cause
16 movement of the other?

17 A. That's a different interpretation than what I'm used to
18 using, but --

19 Q. How would you define it?

20 A. With pairwise independence, the way I've used it is when
21 you have two groups and you're testing those two groups, that
22 they're independent.

23 Q. Okay. Now, going back to the binomial distribution, which
24 type of independence does the binomial distribution require:
25 Mutual independence or pairwise independence?

1 A. That they're -- I believe it's that they're mutually
2 independent.

3 Q. Okay. And so when we come back to the districting analysis
4 that you have done here in Table 3, let's assume that mutual
5 independence is required across all of the 16 districts in
6 order for this distribution to be a binomial distribution.

7 Isn't it correct that the results in one district may, in
8 fact, be correlated to the results in other districts, such
9 that there is no mutual independence, specifically because in a
10 given election year, there could be external factors, there
11 could be a blue wave, there could be excitement on one party's
12 part but not the other's? Don't all of these things suggest
13 that there is no mutual independence between districts?

14 A. I suppose that they may or may not be independent.

15 MR. SUBHEDAR: Okay. Thank you very much. I have no
16 further questions at this time.

17 JUDGE BLACK: Very well.

18 MR. STRACH: A few questions.

19 JUDGE BLACK: Two?

20 MR. STRACH: A few.

21 JUDGE BLACK: A few. Very well. I misheard.

22 MR. STRACH: I'm learning.

23 REDIRECT EXAMINATION

24 BY MR. STRACH:

25 Q. Dr. Thornton, are you giving any political science opinions

1 here today?

2 A. No.

3 Q. Are you giving any opinions about what might affect
4 elections outside of a statistical standpoint?

5 A. No.

6 MR. STRACH: All right. Let me ask you to pull up
7 what was marked IM64. It was the "Recent Developments in the
8 Analysis of Employment Practices" document.

9 Q. Are you able to find that up there?

10 A. Which one was that?

11 Q. It says "IM64" on the front.

12 A. Yes.

13 Q. And I want you to turn to page 69 of that document. Let me
14 know when you're there.

15 Are you there?

16 A. Yes.

17 Q. All right. Do you see the sentence -- the paragraph that
18 begins "Social scientists and statisticians"?

19 A. Yes.

20 Q. All right. Could you -- I know it's difficult. Could you,
21 into the microphone, read that -- read the first two sentences,
22 please, into the microphone?

23 A. "Social scientists and statisticians have used criteria of
24 less than five percent or less than one percent probability of
25 occurring by chance ('greater than two or three standard

1 deviations') to categorize a result as 'statistically
2 significant.' Courts adopted this standard in voting rights
3 cases, such as *Castaneda versus Partida*, and have carried the
4 standard over to equal employment issues in such cases as
5 *Hazelwood School District versus United States* and
6 *International Brotherhood of Teamsters versus The United*
7 *States.*"

8 Q. All right. And is that a description of the kind of
9 analysis you did in this case?

10 A. Yes.

11 MR. STRACH: Thank you. No further questions.

12 MR. SUBHEDAR: Well, Your Honor, just one housekeeping
13 matter. I neglected to move into evidence the impeachment
14 exhibits that we used. So if I could move into evidence IM64,
15 IM70, IM71, IM72, IM73, IM74, and IM75, and this is pursuant to
16 Federal Rule of Evidence 613(b).

17 JUDGE BLACK: Any objection?

18 MR. STRACH: No objection if they're admitted for
19 impeachment purposes only.

20 MR. SUBHEDAR: I think they should be admitted
21 pursuant to the Federal Rule in the same way that the other
22 side has moved in exhibits for impeachment also.

23 MR. STRACH: I'd have to check the record on that,
24 Your Honor. Maybe we have. I'm not remembering right now. If
25 we've done that --

1 JUDGE BLACK: I'm having trouble hearing you.

2 MR. STRACH: Well, it's the goose-gander rule. If we,
3 in fact, have done that, then we agree. If we haven't, then we
4 don't. But I, honestly, Your Honor, I can't remember off the
5 top of my head.

6 JUDGE BLACK: Well, they're conditionally admitted
7 pending an investigation of goose and gander.

8 (Laughter.)

9 MR. STRACH: Thank you, Your Honor.

10 MR. SUBHEDAR: Thank you, Your Honor.

11 JUDGE BLACK: You'll bring it to my attention?

12 MR. SUBHEDAR: Yes, Your Honor.

13 JUDGE BLACK: You'll do the goose-gander analysis.

14 (IM Exhibits 64, 70, 71, 72, 73, 74 and 75 were
15 conditionally admitted.)

16 MR. STRACH: I'll do that, Your Honor, yes.

17 JUDGE BLACK: It's a credit to you.

18 You may step down. You are free to go.

19 THE WITNESS: Thank you.

20 JUDGE BLACK: Thank you.

21 (Witness excused.)

22 MS. McKNIGHT: Good afternoon. Good afternoon, Your
23 Honors. For intervenors, we will be calling Thomas Brunell to
24 the stand. I do not anticipate that we will complete his
25 examination in the next hour, but we can at least begin it.

1 JUDGE BLACK: Very well. If the gentleman would
2 approach the hot seat, the witness stand.

3 And if you'd be willing to pause for the oath. Would you
4 raise your right hand. Do you solemnly swear or affirm that
5 the testimony you'll give today is the truth, subject to the
6 penalty of perjury?

7 THE WITNESS: I do.

8 JUDGE BLACK: Very well. Get used to the chair, it
9 tips back.

10 THE WITNESS: Okey-doke. Thank you.

11 JUDGE BLACK: And we'll want you up close to the
12 microphone.

13 THOMAS BRUNELL

14 a witness herein, having been first sworn, testified as follows:

15 DIRECT EXAMINATION

16 BY MS. McKNIGHT:

17 Q. Good afternoon. Could you please state your name for the
18 record?

19 A. Sure. It's Thomas Brunell, B-r-u-n-e-l-l.

20 Q. And did you prepare a report in this matter?

21 A. I did.

22 MS. McKNIGHT: Your Honors, permission to approach?

23 JUDGE BLACK: Yes. Thank you.

24 Q. Dr. Brunell, I have just handed you what has been marked as
25 Intervenors' Exhibit 60. Could you explain to the Court what

1 this is.

2 A. This is the expert report I prepared for this case along
3 with my CV.

4 Q. Now, your CV starts on about page 22 of the document. I'd
5 ask you to turn there now, please.

6 A. Okay.

7 JUDGE WATSON: Could I just say, for the record, you
8 don't have a cowboy hat on and you're not wearing cowboy boots;
9 right?

10 THE WITNESS: Correct. I'm originally from
11 California, so I haven't fully adopted it.

12 JUDGE BLACK: Welcome to the heartland of America.

13 THE WITNESS: Thank you, sir.

14 Q. Now, is this an accurate copy of your current CV?

15 A. Yes. I think there's been one or two publications since
16 this, but it's -- it's relatively current.

17 Q. And, generally speaking, what are those publications about?

18 A. The one I remember for sure, I have a forthcoming article
19 about the impact that state laws have on voting by national
20 legislators on similar issues.

21 Q. Now, can you describe for the Court your educational
22 background.

23 A. Certainly. I've got a bachelor's degree, master's degree
24 and a Ph.D., all in political science, all from the University
25 of California at Irvine.

1 Q. And where are you currently employed?

2 A. At the University of Texas at Dallas.

3 Q. And are you a professor there?

4 A. Yes, I'm a full professor.

5 Q. And are you tenured?

6 A. I do have tenure.

7 Q. How long have you been a professor?

8 A. All together?

9 Q. Yes.

10 A. My first job I started in 1999. So I guess that's been
11 about, you know, we're coming up on 20 years here.

12 Q. And what positions did you hold prior to your current
13 position?

14 A. I started as an assistant professor of political science at
15 Binghamton University in upstate New York. And then I moved to
16 Northern Arizona University in Flagstaff, Arizona. And then in
17 2005, I moved to UT, Dallas as an associate professor with
18 tenure. And I've been there since that time.

19 Q. What type of classes have you taught?

20 A. My portfolio of classes involves -- I teach intro to
21 American government to freshmen classes. And other
22 undergraduate classes I teach include a class on American
23 political institutions, a class on Congress I teach quite
24 often. I'm -- I think I'm going to teach a class on elections
25 and campaigns soon. And then at the graduate level I teach a

1 class on American political institutions, on Congress. And I
2 teach a graduate class on election law as well.

3 Q. Is it fair to say that in your course of instruction you
4 have taught on issues of redistricting, elections, the Voting
5 Rights Act and representation?

6 A. All the time.

7 Q. What are the areas of your research?

8 A. They pretty much span very similar issues to that. I mean,
9 I think that the underlying -- my main intellectual curiosity
10 has to do with the notion of representation, you know, how do
11 we transmit in the best way possible what the people want into
12 the black box that is the government, and so I think that's
13 kind of the main thing.

14 I'd say most of my work has to do with elections, but I do
15 other work on party polarization, political parties, in
16 general. I've done some work on the European Court of Justice,
17 which is a little bit outside of that field. But, in general,
18 I'm studying representation, which mainly involves studying
19 elections.

20 Q. Has your research been published?

21 A. Yes.

22 Q. About how many articles have you published?

23 A. I think I have somewhere over 50 peer-reviewed articles in
24 print.

25 Q. Have you ever served as a peer reviewer in any of those

1 journals where you've published your own articles?

2 A. All the time.

3 Q. And have you published articles on redistricting,
4 elections, Voting Rights Act or representation?

5 A. Yes.

6 Q. Have you authored any books?

7 A. Yes. I've authored one book.

8 Q. What was it about?

9 A. It's about representation and redistricting. And so in
10 that book I make an argument about why competitive elections
11 might not lead to great representational outcomes. And so the
12 idea here is that the more competitive the district, the more
13 likely you have -- you know, you'll have political equality
14 between the two parties.

15 And so regardless of whether the Democrat or Republican
16 ends up winning, when you have a competitive election, you have
17 lots of losing voters. Right? And so that -- that's not good
18 for the voters.

19 And it's also a very hard district to represent. Right? I
20 mean, it's very rare that somebody's going to take -- you know,
21 feel sympathy for our elected officials. We like to kick them
22 around here a little bit in America.

23 But, I mean, representing hundreds of thousands of people
24 is hard. And when we draw competitive districts, we make a
25 difficult job even more difficult to do. And so that's why I

1 make the provocative argument that if we had, ideologically,
2 homogeneous districts that -- where we still could control the
3 representative through the primary election process, that this
4 might lead to better representational outcomes. Right? And so
5 I think the common wisdom about maximizing competition can be
6 really harmful to representation.

7 Q. And I heard you mention something that we'll pick up later,
8 but just so I'm clear, is it your position that a voter who
9 casts a vote for a losing candidate is not represented at all
10 by the winning candidate?

11 A. No.

12 Q. Okay. Now, I'll ask you some more questions about that
13 later. I just wanted to be sure on that point.

14 A. Sure.

15 Q. Have you received any grants or awards in your work?

16 A. Yes.

17 Q. Have you ever given any lectures or public speeches in your
18 work?

19 A. Many times.

20 Q. Have you ever presented at any conferences?

21 A. All the time.

22 Q. And when I've asked you these questions about presenting at
23 conferences, giving lectures or public speeches, receiving
24 grants and awards, do I understand that was for work related to
25 redistricting elections, Voting Rights Act or representation?

1 A. Generally, yes.

2 Q. Have you ever appeared on television or been quoted in news
3 publications?

4 A. Many times.

5 Q. Have you ever served as an expert witness?

6 A. I have.

7 Q. In what type of litigation?

8 A. It's usually redistricting and Voting Rights Act-related
9 litigation.

10 Q. Have you ever testified at any trials?

11 A. Yes.

12 Q. And is it fair to assume that those trials were related to
13 your expert witness work?

14 A. Yes.

15 MS. McKNIGHT: Your Honors, I move to have Dr. Thomas
16 Brunell qualified as an expert witness in the fields of
17 redistricting, elections, Voting Rights Act and representation.

18 JUDGE BLACK: Very well. Plaintiff wish to be heard?

19 MS. THOMAS-LUNDBORG: Yes, Your Honors. We do not
20 object to his qualifications, but we do preserve our argument
21 that because of the methodology that he used to render his
22 opinions, that they are unreliable.

23 JUDGE BLACK: Very well.

24 The Court accepts the designation of the gentleman as an
25 expert in the fields identified. I've told every other expert

1 in this trial, Congratulations. They haven't really been
2 impressed.

3 THE WITNESS: I'll call my mom later.

4 JUDGE BLACK: All right.

5 MS. McKNIGHT: Your Honors, I have missed an important
6 point. Please pardon me, but let me ask Dr. Brunell about
7 whether his work in these areas required expertise in the area
8 of statistics.

9 A. Yes.

10 MS. McKNIGHT: Okay. I would also like to move for
11 him as an expert in the area of statistics.

12 MS. THOMAS-LUNDBORG: The same objection.

13 JUDGE BLACK: He's designated as an expert in that
14 field as well.

15 MS. McKNIGHT: Thank you, Your Honor.

16 Q. Dr. Brunell, I'd like to start by going through your
17 report. If we could look at I60.

18 Beginning with the first section on page two -- pardon me,
19 page three. Could you tell the Court what this section is,
20 what it begins in your report?

21 A. Sure. The one about Professor Cho -- right? -- that's
22 where we're at?

23 Q. Yes.

24 A. Okay. So kind of the main issue with Professor Cho's
25 report and her testimony has to do with whether or not the

1 hypothetical maps that she created using the supercomputer
2 serve as a good basis for comparison to the actual enacted map.
3 Right? Because that's critical. Right? Because she's trying
4 to make conclusions that this map differs -- right? -- from all
5 of these other hypothetical maps. And to the extent to which
6 that's not true, and I think there are very good reasons to
7 think that these hypothetical maps aren't a good basis for
8 comparison, then her conclusions about outliers really don't
9 make a lot of sense.

10 Q. Thank you. Let me begin --

11 MS. McKNIGHT: If we could pull up Plaintiffs' Exhibit
12 87.

13 Q. And, Dr. Brunell, do you recognize this as the expert
14 report of Dr. Cho in this case which you analyzed?

15 A. Yes.

16 Q. Okay. And if we could turn to page seven. As with any
17 expert report, there's a lot of text. I would like to make
18 sure that when you talk about Dr. Cho's work, we have a sense
19 from her own words what she did.

20 A. Okay.

21 Q. There are two sentences on this page I'd like to highlight.
22 The first one is the second full paragraph, the first sentence.
23 It reads: "A random sample of the set of possible electoral
24 maps allows us to place the enacted map in context and to
25 understand, within a statistical foundation, whether its

1 partisan characteristics are unusual with respect to other
2 feasible electoral maps that could have been drawn."

3 Is that a fair summary of Dr. Cho's -- what Dr. Cho was
4 attempting to do with her analysis?

5 A. Yes, I think that's what she tried to do.

6 Q. I'd like to highlight one more sentence on this page. This
7 would be the second sentence in the last paragraph. It reads:
8 "Feasible is operationalized through the definitions of the
9 traditional districting principles."

10 Do you see that, too?

11 A. I do.

12 Q. Now, lawyers and experts have their own special ways of
13 talking. What does she mean, based on your understanding, by
14 saying "Feasible is operationalized" in this way?

15 A. In her mapmaking processes, she does use some of the
16 common, traditional districting criteria, like compactness and
17 contiguity. And there are others, like preserving communities
18 of interest, preserving the cores of current districts,
19 protecting incumbents. Of course, you have to -- you have to
20 comply with the Voting Rights Act, in Ohio. Not in every
21 state, but in Ohio there is the issue. And so she -- she has
22 some of them in her mapmaking computer program, but not all of
23 them.

24 Q. And why does that matter that she does not have all of
25 them?

1 A. Right. It's -- so I think kind of the easiest one to
2 understand is that she doesn't equalize the population. Right?
3 She allows this one percent tolerance for how many people are
4 put in each district. And so right off the bat, we know
5 that -- right? -- and she sort of waves her hand and says, "Oh,
6 this is easily fixable later on." Well, the fact of the matter
7 is none of these, none of the maps that she drew could actually
8 serve as legitimate kind of on-the-fly replacement for the
9 enacted map here. Right?

10 And so if we're -- so we're not comparing the right things.
11 Right? And so, for instance, if I measured my IQ and the IQ of
12 3 million chickens -- right? -- I might be an outlier compared
13 to these chickens, but that doesn't make me a smart person.
14 Right? It might make me a brilliant chicken, but it doesn't
15 mean I'm a smart person. And so to the extent that we don't
16 believe -- that we can't count on the comparisons that she is
17 making, well, then, we can't rely on her conclusions in terms
18 of the outlier analysis.

19 Q. So when you look at Dr. Cho's report, and she talks about
20 comparing the enacted plan to a random set of other feasible
21 electoral maps, is she right?

22 A. Yeah, I -- how feasible are they? Right? I mean, I think
23 that's the question. And I don't think it's either/or, but
24 clearly there are some problems with it. Right? And so
25 protecting incumbents wasn't part of it. And so we know that

1 that's going to make it different. That's automatically going
2 to make all of her districts different from the sort of
3 stated -- one of the main stated goals by the legislature here
4 in Ohio.

5 And when the data were given to us -- all right? -- we were
6 never given any geographic shapefiles that would allow us to
7 map any of these maps. So we don't know what they look like.
8 You know, do they -- do they look normal? Right? Does it look
9 like a districting map or does it not? We don't know. And,
10 apparently, she hasn't looked at any either -- right? -- so
11 it's not -- I don't know, you don't know and the Court doesn't
12 know, not even Professor Cho knows what any of these maps look
13 like, and so that makes it even harder. If we had this, if it
14 was given to us, of course, we would criticize it. Right? But
15 we need to be able to see are these maps actual valid
16 congressional district maps or are they not.

17 Q. And what happens to the conclusions Dr. Cho draws in her
18 report if we cannot rely on the baseline of feasible electoral
19 maps?

20 A. Right. I mean, like I said, then, we're not -- we're not
21 making the right comparisons. And so it's -- an outlier
22 analysis is a relative analysis. It's an outlier relative to
23 something. And if the something we're comparing it to isn't
24 appropriate -- right? -- or is -- and, again, it's not -- it's
25 not is it appropriate, yes, or is it inappropriate, no. But

1 there's going to be sort of gradations here.

2 And so to the extent to which we can't really compare these
3 two, the actual map to this other group, well, then, the whole
4 outlier analysis becomes less useful. The utility kind of
5 falls off really quickly.

6 Q. One more point on this page seven. I read Dr. Cho's report
7 to say that these -- this random sample allows us to place the
8 enacted map in context.

9 Understanding what you just said about the reliability of
10 the baseline, do you think that Dr. Cho's analysis places the
11 enacted map in context?

12 A. I don't think we have enough information to conclude that
13 that's the case. I mean, like I said, we didn't -- we didn't
14 get all the data. We haven't seen -- out of the 3 million
15 maps, we haven't seen even one of them. And I would never
16 expect her to produce all 3 million maps. That would be crazy.
17 But a random sample, you know, maybe 300 maps or 3,000 maps,
18 just to make sure that, hey, this isn't -- the computer is not
19 doing something crazy. Right?

20 Because when you write computer code, you know, you
21 sometimes -- you've miscoded something, and the computer ends
22 up doing something -- the computer follows your instructions
23 perfectly right. But if you haven't given it good instructions
24 then it's going to produce something that we can't count on.

25 Q. So if Dr. Cho's analysis shows that the enacted map is some

1 form of outlier, and we can't rely on the baseline electoral
2 maps that she's drawn, are we able to draw any conclusions
3 about the electoral map, how much of it was drawn using
4 improper partisan intent and how much of it was drawn using
5 some other appropriate intent?

6 A. Yeah, no, you can't make those kind of conclusions. I
7 mean, redistricting, for better or for worse, is really
8 complex. Right? And I think I'll probably say this several
9 times while I'm up here. And so I think understanding that
10 process -- right? -- all the inputs that go into drawing a map
11 and -- and how you put this puzzle together -- right? -- when
12 you make a change in one part of the state, that change ripples
13 through other nearby districts.

14 And just the number in the amount of inputs -- right? --
15 that a mapmaker has to deal with makes the job really, really
16 difficult to do. And some of these traditional redistricting
17 criteria I talked about, they're intentional with one another.
18 Right? So, for instance, we talk about preserving communities
19 of interest -- right? -- which usually ends up meaning
20 preserving, keeping cities and counties whole to the extent
21 that that's possible. But the one-person, one-vote requirement
22 from *Baker v. Carr* and its related cases from the 1960s means
23 that we're going to have to split cities and counties. Right?

24 And, again, that's for -- that's for a good reason. Right?
25 I mean, we used to -- in the early part of the 20th century,

1 the states preserved counties really, really well -- right? --
2 where we would have a rural county with 10,000 people that got
3 one state legislator, and then an urban county with 100,000
4 people that got one state legislator. Right? So that's what
5 *Baker v. Carr* fixed was this malapportionment. Right?

6 So I think it's good that the districts are equalized in
7 terms of the population, but that means that we're going to
8 have to give up something. Right? And the thing we're going
9 to have to give up is keeping every city and every county
10 whole. And it's also going to mean, since we're -- at least
11 for congressional districts -- right? -- when we're really
12 trying to literally make each district equally populous --
13 right? -- it's going to mean we're going to have funny shapes,
14 and we're going to have little nooks and crannies throughout
15 the district, because the mapmaker is trying -- I literally
16 need 19 more people -- right? -- in this district, and I have
17 to take it from somewhere. Right? And it's an incredibly hard
18 puzzle to put together.

19 So a lot of times in litigation, you know, we take a step
20 back and just say, "Oh, look, this is all" -- you know,
21 "partisanship is driving everything." Well, there was a lot of
22 inputs in that process. Right?

23 I've sat in in Texas' last round, the redistricting. The
24 committee in the state, Texas state legislature, you know, went
25 all around the whole state, and they were doing field hearings.

1 And so I went to the one that was in Dallas, and, I mean, all
2 day it was people coming up, you know, saying what they
3 wanted -- right? -- from the next round of redistricting.
4 Municipal officials, county officials, regular voters --
5 right? -- people from interest groups. And so they're telling
6 them lots and lots of different things, and the legislators try
7 to take this stuff into account.

8 JUDGE BLACK: Excuse me. Plaintiffs' counsel?

9 MS. THOMAS-LUNDBORG: Yes. Objection to relevance of
10 what happened in Texas and to foundation about, generally, what
11 mapmakers take into conclusion when drawing maps.

12 JUDGE BLACK: Objection's noted.

13 Q. Now, Dr. Brunell, I heard you talk about the fact that Dr.
14 Cho did not account for the one-person, one-vote requirement.
15 I'd like to get a better understanding of what that means for
16 her analysis and what that means for the Court.

17 A. Okay. Sure.

18 Since -- you know, I'm trying to recall -- I think she said
19 the reason why she allowed for the deviation was that
20 equalizing the population was difficult, which it is. Right?
21 And I think maybe it was she also then had to -- computing --
22 she would have to take some extra steps to compute the
23 political data. Right? Because you're going to start to split
24 districts and whatnot. And so she decided to -- to make it
25 easier -- right? -- to model these districts, she would allow

1 the population -- so there's some ideal population for each
2 congressional district in Ohio, which is just the total
3 population from the 2010 census divided by 16. Right? And so
4 allowing a one percent population deviation, which really isn't
5 that much, but Courts have been fairly strict on requiring, you
6 know, literally down to a single person, quite often. And if
7 there are deviations, then the state has to come up -- and they
8 get sued for it -- they have to provide a reason. Right?
9 There's a justification that there's some compelling state
10 interest that's being protected by allowing these population
11 deviations as to exist. So the fact that there are deviations
12 kind of calls into question, right off the bat, are these
13 districts constitutional.

14 JUDGE BLACK: Okay. Plaintiffs' counsel has been
15 standing politely for quite some time.

16 MS. THOMAS-LUNDBORG: Objection. Move to strike.
17 Mischaracterizes Dr. Cho's testimony and her opinion as it is
18 written in her report.

19 JUDGE BLACK: Very well. The objection's noted.

20 THE WITNESS: Should I stop, Your Honor, if I see her
21 standing up? Should I stop talking?

22 JUDGE BLACK: Sure.

23 THE WITNESS: Okay.

24 JUDGE BLACK: It would be helpful because sometimes I
25 don't see her.

1 THE WITNESS: Okay.

2 Q. Now, you described a population deviation of plus or minus
3 one percent. And to the average listener that may not sound
4 like that much, but in the case of her analysis, how does it
5 impact the conclusion she came to about the enacted map?

6 A. Right. It's -- again, it all goes back to are these
7 districts legitimate to compare to the enacted map? And to the
8 extent that the deviations are plus or minus one percent, that
9 seriously calls into question whether or not they make a
10 legitimate comparison to the actual enacted map.

11 Q. So if a map drawer in 2011 decided to split a precinct or
12 split some municipality because of the one-person, one-vote
13 requirement -- which means just that, one person, one vote; is
14 that right?

15 A. Yes.

16 Q. So if a map drawer decides to split a municipality or a
17 precinct because of the one-person, one-vote requirement, how
18 will that decision show up in Dr. Cho's analysis? Will it be
19 against the map drawer, or will it appreciate that that
20 decision was for the one-person, one-vote requirement?

21 A. Yeah. Her model doesn't know the reason why.

22 JUDGE BLACK: Yes. I'm sorry.

23 MS. THOMAS-LUNDBORG: Objection. I think they've
24 failed to lay the foundation for how he would know whether her
25 model accounts for it or not.

1 JUDGE BLACK: Very well. The objection's noted.

2 Q. Now, you analyzed Dr. Cho's report, as you've already
3 discussed. When you were looking at her report, were you able
4 to identify whether she included the issue of core retention in
5 her analysis?

6 A. Yeah. I don't think that she did.

7 Q. Could you explain briefly to the Court what that means in
8 terms of redistricting.

9 A. Sure.

10 Core retention has to do with how two districts look
11 from -- you know, from the previous map, from the benchmark to
12 the new map. And, generally speaking, one of the things that
13 states try to do is, they try to preserve as much of the
14 district as they possibly can. Right?

15 Now, this varies from state to state and from particular
16 circumstances. Right? So if you're -- if a state loses seats
17 or gains seats -- right? -- that's probably going to have a big
18 effect on how much of the cores of individual districts you
19 can -- you can actually protect. But it is a -- it is a
20 traditional -- a traditional -- one of the things that
21 mapmakers take into account. And it's pretty clear that that
22 plays no role -- right? -- there's this -- drawing these
23 nonpartisan random districts. And so it sort of specifically
24 doesn't try to preserve -- start with the cores of the
25 districts before and then compared to how they would look

1 after.

2 And this kind of goes with, you know -- why do you preserve
3 cores? Well, because it's part of protecting incumbents at one
4 level. And, also, it's for -- for the voters' benefit. Right?
5 I mean, it's not -- the voters are going to get moved between
6 districts. It's inevitable. But if you're shaking up every
7 single voter into districts, then that can cause more confusion
8 than if you were trying to preserve as many cores as you
9 possibly can to keep people in the same district that they were
10 before.

11 Q. So if a map drawer in 2011 decided to draw a line in order
12 to preserve the core of the prior district, do I understand
13 that that would not appear in Dr. Cho's analysis?

14 A. Correct.

15 Q. And, in fact, that kind of decision could appear in Dr.
16 Cho's analysis as being partisan, improperly partisan, couldn't
17 it?

18 A. Yeah. It all depends on what the map looked like ahead of
19 time. And so, since the Republicans were advantaged ahead of
20 time or they had more seats before the last round of
21 redistricting, if you preserve cores, then that would carry
22 through then to the next round of redistricting. I mean, to
23 the next -- the next map.

24 Q. I'd like to ask you about another aspect of redistricting,
25 and that is incumbency protection. Do you understand that to

1 be a traditional districting principle?

2 A. Yes.

3 Q. And based on your experience, how does incumbency
4 protection come out in decisions or requests that are made on a
5 map drawer?

6 A. Right. I mean, one of the first things that people that
7 draw these maps do is they -- you know, they load up the census
8 data, they have their political data, and they also map the
9 homes of all the current incumbents so that they know where
10 they're living. Right? It's like Where's Waldo. Right?
11 Where do all the Waldos live?

12 Because, typically, we define somebody's district based
13 upon where they live. Right? And now there's no -- there's no
14 constitutional requirement that you live in your district.
15 Right? But it's very hard to run and win in a district in the
16 same state that you don't live in. So that we'll talk about,
17 oh, this is Representative Smith's district. Right? Not that
18 he or she owns it, but that's because that's where her house
19 is, inside that district.

20 And so protecting incumbents -- when I talk about
21 redistricting to lay people, to regular folks, they're always
22 surprised -- right? -- about that protecting incumbents is a
23 perfectly reasonable thing to do. Because, again, I think this
24 is this -- we have a healthy distrust -- right? -- for our
25 elected officials, and we do like to keep them on their toes.

1 And so, you know, an incumbent almost becomes a pejorative
2 to many, many people. But these people were elected --
3 right? -- duly elected by hundreds of thousands of people. And
4 so for a mapmaker to, you know, just kind of, you know, draw
5 districts however he or she wanted to and it forces lots of
6 incumbents out of office, there's something kind of
7 undemocratic about that. So that's the reason why protecting
8 incumbents is a traditional principle.

9 Q. And if map drawers in 2011 made a decision related to
10 incumbency protection, whether for a Republican incumbent or a
11 Democratic incumbent, does Dr. Cho's analysis account for that
12 decision?

13 A. No.

14 Q. And so understanding from your testimony and from other
15 testimony in this case that incumbency protection is a
16 traditional districting principle, Dr. Cho's analysis would
17 conclude that some of those decisions are improper partisan --
18 are motivated by improper partisan intent when, in fact, they
19 were motivated by a traditional districting principle; is that
20 fair to say?

21 A. It could; it could.

22 Q. But we don't know for sure; is that right?

23 A. Right.

24 Q. Why not?

25 A. Well, we don't -- I mean, because it's not part of her

1 model. Right? So she takes this nonpartisan approach and she
2 explicitly doesn't protect incumbents and doesn't try to
3 preserve cores, and so the fact that the map differs --
4 right? -- is -- is, you know, the conclusion that she draws is
5 like, well, it's -- it's the fault of the map -- right? There
6 was all these partisan decisions that went on.

7 But in reality, I mean, again, it's all the basis of
8 comparison. Maybe it's -- the decision is that she put in --
9 right? -- the parameters that she included and those that she
10 didn't include -- right? -- that affected her districts --
11 right? -- and made her districts different from the map.
12 Right? And so I think that's the problem that -- that I think
13 the Court has to grapple with.

14 Q. So in your opinion, can the Court rely on Dr. Cho's
15 possible electoral maps -- I understand there are 3 million of
16 them -- to form a nonpartisan baseline against which the Court
17 can compare the enacted plan?

18 A. I mean, I have my own sort of feelings about it, and I see
19 my role here as not to just tell you do it or don't do it,
20 because, ultimately, my opinion doesn't matter, but just to
21 help you understand, you know, here's kind of what's going on.
22 Right? There are downsides that she's made choices, and some
23 of those choices really, I think, you'll have to -- you'll have
24 to grapple with and struggle with, you know, "Do I believe this
25 is a good comparison or do I not? Right? And I think there's

1 very serious issues about some of the decisions that she's made
2 that call that into question.

3 Q. Now, we have just discussed a variety of interests that
4 were not considered in Dr. Cho's report. Turning to page three
5 of your report, and this goes back to Intervenor's Exhibit 60,
6 page three.

7 Dr. Brunell, is this one of the places in your report where
8 you identify this issue with interests that were not considered
9 in Dr. Cho's report?

10 A. In the middle paragraph?

11 Q. Yes.

12 A. Is that where you're looking at?

13 Q. Yes.

14 A. Yeah. That's where I talk about kind of all of the things
15 that go into making a map, that it's -- that it's a complex
16 process with lots and lots of inputs. So it's not simple, and
17 it's not easy.

18 Q. And that complexity is not fully captured in Dr. Cho's
19 electoral maps, is it?

20 A. Exactly.

21 Q. Okay. Now, going further on page three, I see you identify
22 an issue about small variations. Can you explain to the Court
23 what you mean about that.

24 A. Sure. So here the data -- the data that were provided to
25 us weren't perfect. Right? And, again, we didn't have the

1 maps to see what a lot of these districts looked like. And so
2 I was trying to get a feel for, you know, the extent to which
3 the maps differed amongst themselves, amongst these 3 million
4 hypothetical maps that she drew.

5 And so, for instance, on page four of my report, the
6 histogram there shows the distribution of the percent black in
7 the Voting Rights Act, the Section 2 district that she drew in
8 Cuyahoga County. And you can see that there's kind of, you
9 know, three or four main areas -- right? -- with some small
10 variations.

11 And so my concern here -- and this isn't just about these
12 districts, but it's more broad than that -- is, you know, how
13 much did her maps differ from one another? Right?

14 So, I mean, I think part of the -- the weight of her report
15 is that there was 3 million, right? Wow, that's a lot of
16 maps -- right? -- to compare it to. But we don't know the
17 extent to which these maps really differed from each other.
18 Right?

19 And so my concern that I'm trying to bring up here is that
20 maybe, you know, if there really are only a handful of kind of
21 distinct majority -- VRA districts in Cuyahoga County that she
22 drew with a whole bunch of very small variations on them.
23 Right?

24 So then I think that calls into question, well, you know,
25 it's not really 3 million maps anymore here that we're

1 comparing it to. It's something that's far less than that.
2 Right? And this would have been solved if she would have
3 printed out some maps. Right? But nobody -- nobody's seen the
4 maps.

5 And so it's hard for us to tell, and so I'm trying to do
6 some detective work here -- all right? -- and see if that
7 happens to be the case. And I think it might be, because, you
8 know, theoretically, it's possible that her algorithm draws a
9 map. Right? "This is map one," or whatever. And then the
10 next map, you could just switch one household between two
11 districts right next to one another -- right? -- and that would
12 be a different map. Right?

13 And I'm not saying that's the way her algorithm worked, but
14 it could very well be the case that there's lots and lots of
15 maps that look very, very similar and differ only trivially,
16 you know, at the margins, but nobody knows. Right? She
17 doesn't know. We don't know. The Court doesn't know and can't
18 know.

19 And so --

20 JUDGE BLACK: Excuse me. We have a plaintiffs'
21 counsel standing.

22 MS. THOMAS-LUNDBORG: Objection as to testimony what
23 Dr. Cho knows about her maps.

24 JUDGE BLACK: Very well.

25 Q. You can continue if you weren't finished.

1 JUDGE BLACK: Just so you know, we're not resolving
2 objections until after trial. We're wading them.

3 THE WITNESS: Okay. Very good.

4 A. So that's my concern here, is that the extent to which
5 these maps are -- there really are kind of 3 million maps that
6 we would look at and say, okay, yeah, these really are 3
7 million different maps. Right? Like I said, there could be
8 iteration after iteration after iteration with very, very small
9 differences between the maps.

10 And then, like I said, then the basis for comparison is not
11 3 million. Maybe now it's one million. Or maybe it's only a
12 hundred thousand. Or maybe it's only four. Right? Maybe if
13 we laid out all the 3 million maps, we'd say, you know, there
14 are really four or five variations on different themes here in
15 the state of Ohio, but we don't know.

16 Q. And what does it matter to the Court whether there are 3
17 million maps or three?

18 A. Right. I mean, I think the -- you know, comparing three
19 maps, right, how -- how the enacted map --

20 JUDGE BLACK: Yes?

21 MS. THOMAS-LUNDBORG: Objection, and move to strike as
22 to testimony of there being only 4 million maps. There's no
23 foundation. He's purely speculating.

24 JUDGE BLACK: Very well.

25 A. I mean, my point is nobody knows. Right? I mean, I don't

1 know if there's only four maps. But -- and from what I
2 understand -- right? -- from what I've read in Dr. Cho's
3 testimony, that might be the case with her, too. It didn't
4 seem like, you know, there was checks of all these maps, and so
5 I don't know if she knows. Right?

6 JUDGE BLACK: Standing --

7 MS. THOMAS-LUNDBORG: Objection. Move to strike.
8 Misstates Dr. Cho's testimony.

9 JUDGE BLACK: Very well. Do you want to have a
10 standing objection to anything he says misstates Dr. Cho's
11 testimony?

12 MS. McKNIGHT: I think that may make sense.

13 MS. THOMAS-LUNDBORG: Thank you.

14 JUDGE BLACK: Very well.

15 MS. McKNIGHT: Thank you.

16 A. So if you're comparing -- right? -- like I said, part of
17 the utility of this outlier is the number of -- right? -- the
18 number of alternative maps that she makes. And so if there are
19 far fewer than 3 million -- right? -- then the comparison
20 becomes -- right? -- an outlier to a gigantic distribution we
21 make one conclusion about. But an outlier to just a couple
22 other -- a much smaller distribution, well, then, it's -- it's
23 not quite as -- it's not quite the same conclusion. Right?

24 Are we flipping 3 million coins or are we flipping 17
25 coins? Right? I think that's kind of the way to think about

1 it.

2 Q. In the next section of your report, it begins at the bottom
3 of page 4 with the title "Bias" and goes on into page five.

4 Could you give the Court a sense of what you were addressing in
5 this section.

6 A. Yes. So the figure, Figure 2 on numbered page six of my
7 report, this is -- these are her data from the data that was
8 provided to us. And these are the values for the bias --
9 right? -- the relative frequency of each of these values across
10 her 3 million-plus maps. And so you can kind of get an idea
11 here. And so bias that is greater than zero in her -- in the
12 way that she's calculated, it means that there's a
13 pro-Republican bias. Right? And values less than zero
14 indicates a pro-Democratic bias. Right? And this goes to
15 the --

16 I mean, I think you heard testimony from Professors Warshaw
17 and whatnot that bias basically means -- that's kind of at the
18 heart of gerrymandering -- right? -- the more bias -- right? --
19 the more -- the further away we are from symmetry between the
20 two parties.

21 And so kind of my -- the thing that struck me here is that
22 even in her nonpartisan -- her map drawing, her explicitly
23 nonpartisan approach, two-thirds of her maps favored -- had a
24 Republican bias. Right? So I think this might be evidence
25 about -- you know, sometimes we talk about natural

1 gerrymandering -- right? -- that sometimes Democrats are at a
2 natural disadvantage to Republicans because they live in more
3 tight geographic spaces -- right? -- and more homogeneous
4 areas. And so -- and I think that might -- that could be a
5 conclusion that you could draw from these particular data as
6 well, that her nonpartisan approach also drew -- you know, two
7 out of every three maps had a pro-Republican bias in it.

8 Q. Well, moving on to the next section, you address an issue
9 called "Swing Ratio." Can you explain swing ratio to the Court
10 in your own words.

11 A. Sure. So this is kind of -- swing ratio and bias are kind
12 of the two basic metrics that we're interested in, particularly
13 with respect to talking about electoral systems. So
14 responsiveness and swing ratio are -- mean the same thing.

15 And so this has to do with how an electoral system
16 translates votes into seats. Right? So I think the easiest
17 comparison is a system of proportional representation --
18 right? -- where the swing ratio is one. Right? So in a
19 country that uses PR, if a -- if a party gets 17 percent of the
20 vote nationwide, they get 17 percent of the seats in the -- in
21 the parliament.

22 It's more complicated with single-member districts.
23 There's no -- the swing ratio isn't deterministic like it is in
24 PR. Right? It's sort of a one-for-one. Right? The swing
25 ratio is always one. Right? But in a single-member district

1 system is it's going to vary depending on lots of different
2 things, although it mainly has to do about with the
3 competitiveness of the districts and whatnot. And the more
4 districts that are closer to 50-50, you're likely to get a
5 higher level of responsiveness or a higher swing ratio.

6 So that's basically what it is. Right? And so it's a
7 measure of the electoral system's responsiveness to change in
8 the votes and how that maps into changes in the seats for the
9 two parties in the legislature.

10 Q. Now looking on page seven, you note that responsiveness for
11 the enacted plan is somewhere around three. Do you see that
12 line?

13 A. Not yet.

14 Q. You know what, Dr. Brunell? You can also look on the
15 screen. We've highlighted it for you.

16 A. Oh, there. Okay.

17 Yes, I do see it there.

18 Q. Okay. Could you explain your position on page seven
19 related to the enacted map being somewhere around three on
20 responsiveness?

21 A. Sure. So as I -- you know, I think I say it on the
22 previous page. So the swing ratio is, you know, we don't want
23 the swing ratio to be too high, we don't want the swing ratio
24 to be too low, we want it to be somewhere -- right? --
25 somewhere in the middle, somewhere where it's just right.

1 Because if we have a hyperresponsive system, then very small
2 changes in the vote lead to gigantic changes in the
3 partisanship of the legislature. Right?

4 And so, you know, if we have just a handful of fickle
5 voters going back and forth between the parties, if they're
6 able, just with a couple of votes to change -- right? -- the
7 majority party back and forth between the -- in the legislature
8 between elections that wouldn't be healthy. Right? We would
9 call that volatility. Right? And at some point responsiveness
10 becomes volatility.

11 So we don't want that. Right? And we don't want a system
12 in which there's no responsiveness -- right? -- where a ten
13 percent, 20 percent increase in one party's share of the vote
14 leads to -- leads to no changes in the seats. So we want it
15 kind of somewhere in the middle. Right?

16 And, three, you know, three is relatively responsive.
17 Right? That was what Dr. Cho calculated. And she classified
18 it as not very responsive to the voters, and I was surprised by
19 that characterization, because I think three is pretty -- is
20 pretty highly responsive, to be perfectly honest with you.

21 Q. And further down on the page do you note some support for
22 your position that three is responsive?

23 A. Yes.

24 Q. And what is that?

25 A. So I looked at -- well, I looked at Edward Tufte's. Is

1 that what you wanted me to talk about, the Tufte comparison?

2 Q. Sure, yes.

3 A. You know, so to get a feel for, well, is three high or is
4 it low, you know, I referred to an old article by Edward Tufte,
5 who was one of the first people to kind of talk about these two
6 metrics of swing ratio and bias. And I think these data are
7 from -- I think this article is from the 1970s. And so when he
8 calculated it for several states and other countries -- and so
9 this is just to get a feel for actual empirical levels of
10 responsiveness both in America and in other countries that use
11 single-member district systems like Great Britain and New
12 Zealand. And you can see they range from 1.28 up to a high of
13 3.65, but there's only -- there's only that one instance where
14 it's over three.

15 So usually it's -- you know, I don't even know if I
16 calculated the average here. But eyeballing it, I'd say the
17 average is probably somewhere around two and a half or maybe
18 even less than that.

19 Q. And could we turn to page nine in your report in I60. So
20 this chart on page nine, is that what you were just describing,
21 Dr. Brunell?

22 A. The table, Table 1, yes.

23 Q. And so why is this meaningful to the Court?

24 A. I mean, I'm hoping that it gives you some sense --
25 right? -- of what swing ratios really are, what the values are,

1 and -- because like I said, I disagree with Professor Cho about
2 three being non-responsive. Right? I think it's actually
3 maybe a little bit on the higher end. Right? But certainly
4 somewhere within the -- you know, within the not too hot, not
5 too cold range. And so when she said it wasn't responsive,
6 again, I was -- that surprised me.

7 Q. So do I understand correctly that the fact that it's at a
8 around three means that it is considered a little more
9 responsive than most of the numbers on this table?

10 A. That's correct.

11 Q. Moving on to your next section, Partisanship by District,
12 what is this section about, Dr. Brunell?

13 A. This section was motivated by the lack of information that
14 we were given or basically the lack of data that we were given.
15 So I was given these data and, you know, they didn't really
16 tell us what they were, you know, what the different variables
17 were. And so we set out or, you know, we're trying to figure
18 out what's going on. What do these data mean?

19 And so, like I said, it was sort of like detective work.
20 And so this one was about -- it took me -- it took me several
21 hours to kind of figure out what was going on here. But one of
22 the things that she -- one of the more important variables was
23 the -- was how partisan the district was. Right? Kind of a
24 performance metric. Right? What was the predicted percent of
25 the vote that the Democrat got in this district?

1 And so it became -- you know, as I was looking at the
2 data -- right? -- because I wasn't -- first I started, you
3 know, doing some summary statistics and looking at things
4 overall -- right? -- and then I start trying to parse it down
5 to figure out exactly what's going on.

6 And then eventually I get to the -- I'm looking at the
7 actual data itself. Right? So I noticed that, you know, that
8 there were lots of -- there were repetitions in the democratic
9 percentage value within a single row. An observation; right?
10 And so that told me that, well, we don't really have all the
11 data here. Right?

12 And so it turns out that she provided -- she didn't -- so
13 when she generated a map, what she didn't give to us was:
14 Here's the 16 districts, and here is the democratic percentage
15 in each district. What she gave to us was: Here's the 17
16 plaintiffs. Right? And here -- and then there's some map gets
17 made and the plaintiffs aren't all in separate districts.
18 Sometimes they get paired in doubles and triples, and I think
19 sometimes maybe even four at a time. And then those, the data
20 she gives to us. Right?

21 So in this example -- right? -- that I picked out, I think
22 there -- yeah, there are four sets of duplicates, duos, and
23 then one set of triplicates. So there's only 11 unique numbers
24 for the Democratic percentage. So it means I only know -- and
25 I don't really know which districts they are. Right? Because

1 they're defined -- well, I don't know which districts are in
2 and which districts are out. Right?

3 So part of this was just the frustration of not being given
4 all the data. Right? And that affected my ability to really
5 investigate what was going on in -- in the data itself and
6 therefore try to better understand what her algorithms were
7 doing.

8 Q. Now turning to page 11, there's a section in your report
9 titled "Other Factors Not Part of the Algorithm." We've
10 already discussed some of these factors.

11 Is there anything in here that you'd like to bring to the
12 Court's attention as far as other factors that were not part of
13 Dr. Cho's algorithm?

14 A. Yeah, I don't know if there's anything I haven't said here,
15 but, you know, I think it's worth reiterating -- right? -- that
16 the process of drawing maps is -- is difficult, that there's a
17 lot of inputs into it. And if we're going to try to make valid
18 comparisons to an actual map that gets drawn by actual people
19 with all of these inputs and all of these competing
20 requirements and competing incentives, then those other maps
21 need to at least try to appreciate as many of those things as
22 possible.

23 You'll never be able to do all of them. Right? I mean,
24 because you can't simulate, you know, the real world. But to
25 the extent you're leaving some out, then, like I said before, I

1 think this is something that you guys have to decide, like,
2 what, what is your appetite for -- for uncertainty? Right?
3 What is your -- do I believe that these 3 million districts are
4 legitimate to compare to the others on the map. Right?

5 And again, that's -- there's serious questions about
6 whether you should do that or whether you shouldn't, but it's
7 up to the -- it's not up to me.

8 MS. McKNIGHT: Your Honors, I'm about to begin another
9 portion of my examination. I could continue, it's maybe 20, 30
10 minutes, or we could begin in the morning.

11 JUDGE BLACK: No, he mentioned appetite.

12 (Laughter.)

13 JUDGE BLACK: I think it's a nice break. And it's
14 eight minutes of 5:00.

15 JUDGE WATSON: It breaks my heart.

16 JUDGE BLACK: Judge Watson's heart is broken if we
17 break, but we are going to break.

18 We will break until 9:00 tomorrow. I hope you enjoy the
19 break.

20 As to the witness, you're not to discuss your testimony
21 with anyone during the break.

22 THE WITNESS: Okay.

23 JUDGE BLACK: Enjoy the Queen City.

24 THE WITNESS: Thank you.

25 JUDGE BLACK: Did plaintiffs' counsel have something?

1 MS. THOMAS-LUNDBORG: No, Your Honor. It was just
2 that very instruction that you gave.

3 JUDGE BLACK: Very well.

4 So is there anything else that requires the Court's
5 attention before we break for the day?

6 From the plaintiff?

7 MS. LEVENSON: I just want to say that my son just had
8 twin baby girls just now.

9 (Applause.)

10 JUDGE BLACK: That's wonderful news.

11 MS. LEVENSON: Thank you.

12 JUDGE BLACK: I'm left stunned. Has anybody else got
13 anything you want to share with us?

14 (Laughter.)

15 JUDGE BLACK: Plaintiffs ready to adjourn for the day,
16 sir?

17 MR. FRAM: Yes, we are, Your Honor.

18 JUDGE BLACK: All right.

19 And the defendants?

20 MR. STRACH: The same with defendants.

21 JUDGE BLACK: And the sickly intervenors?

22 MS. PROUTY: Yes, Your Honor.

23 JUDGE BLACK: All right. We're in recess until
24 tomorrow at 9:00. The witness may step down.

25 (Witness temporarily excused.)

1 COURTROOM DEPUTY: All rise. This court is in recess.

2 (At 4:53 PM, the trial was recessed, to be continued on
3 Tuesday, March 12, 2019, at 9:00 AM.)

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C E R T I F I C A T E

I, Luke T. Lavin, RDR, CRR, the undersigned, certify
that the foregoing is a correct transcript from the record of
proceedings in the above-entitled matter.

s/Luke T. Lavin
Luke T. Lavin
Official Court Reporter